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PAPER TRADE JOURNAL

With Which Is Combined

Vol. XC, No. 24 — PAPER — Thursday, June 12, 1930

I. P. Co. Acquires Waterway Paper Products Co.

Plant Which Has Just Been Added to the String of Mills of the International Paper Co., Is Located On the Drainage Canal, Chicago—The Newly Purchased Project Will Add 110 Tons of News Print and Specialty Papers Daily to the International Tonnage—The Machines Are 132 and 204 Inches

International Paper Company has purchased Waterway Paper Products Company. The plant of the Waterway Company is located in Chicago on the Drainage Canal and has a capacity of 110 tons a day of news print and specialty papers. The two paper machines in the mill are 132 inches and 204 inches in width.

P. H. Glatfelter Co. Starts Filtering Units

SPRING GROVE, Pa., June 9, 1930.—The P. H. Glatfelter Company last week put into operation four new filtering units which have been added to its filter plant. This is the first part of the recently announced expansion program to be completed and in operation. The total capacity of the increased filter plant is 8,500,000 gallons of water, which includes 500,000 gallons furnished the borough of Spring Grove daily for drinking purposes.

Work has been progressing steadily on the new buildings which are to house the 192 inch paper machine, practically all of the foundation and steel work being in place and much of the brick work completed.

Swedish and Norwegian Paper Demand Slow

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—Both Swedish and Norwegian paper manufacturers complain of the lack of orders and low prices which are the most noticeable features in the paper market at the present time. The Swedish news print mills have sufficient orders on hand for this year, but in Norway the outlook is less satisfactory, inasmuch as only one of the larger companies reports this year's output entirely disposed of. The kraft paper market is particularly bad, French requirements having fallen off while there has been no improvement as yet in the British market.

Champion Coated May Build $11,000,000 Plant

A press dispatch from Hamilton, Ohio, says:—"The Champion Coated Paper Company here is contemplating the erection of an $11,000,000 paper and pulp mill in Mobile, Ala., it was announced today. Final decision is to be made later. The plant would include processes for converting raw materials into finished products. Mobile as the site for the plant is under consideration because of its proximity to timber lands, it was said."

Union Bag Sells Mill No. 5

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., June 9, 1930.—Announcement is made by the Union Bag and Paper Corporation that the entire equipment of Mill No. 5 has been sold to a paper company in another locality. The plant is to be dismantled at once and shipments will be completed to the new owners within a few weeks, according to Harry T. Cornell, resident manager. It was stated that the transaction was made at the New York office of the company and the destination of the machinery will not be known for a few days.

Mill No. 5 houses one 146-inch paper machine and a large crew will be used in dismantling it. The plant is to be retained by the company although there is a possibility that it may be leased in the near future. Operations at this unit were discontinued about three months ago when about 40 hands were thrown out of employment. In past years it had been among the most active of the branches controlled by the paper company and its loss has been somewhat of a blow to the business men of the city. A further announcement regarding the concern's reorganization plans will be made in a few days.

Swedish Wood Pulp Market Improves

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—The Swedish wood pulp market showed considerable improvement during the first half of May, and the weak tendency which characterized the market during the early spring months gave place to more confidence according to a report received by the Department of Commerce.

Chemical pulp sales during this period totaled 65,000 metric tons of which 50,000 tons represented strong sulphite. In spite of the improvement in demand prices continue unsatisfactory. Strong sulphate is now quoted as low as $2.00 per 100 pounds ex dock, and the idea of giving the market the required stability by reducing production seems to be gaining ground. The turnover in mechanical ground wood, both wet and dry, was negligible during the first half of May.

Paper Index Numbers for April

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—April production index number for the paper industry was 124 compared with 121 for March and 124 for April of last year, taking 1923-1925 at 100, according to the Department of Commerce.

Fox River Valley Paper Mill Business Declines

While Specialty Mills Continue Active, With More Orders Than a Year Ago, Writing Paper Demand Is Reported to Have Decreased 8 Per Cent—Wrapping Paper Has Apparently Suffered Severest Slump—Manufacturers Generally Optimistic

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 9, 1930.—Decreases of eight to fifteen per cent are shown in the business of paper mills in this vicinity, according to a survey of some of the principal plants. Writing paper demand is down 8 per cent, and in other lines in various ratios up to 15 per cent. Wrapping paper appears to have suffered the heaviest decline in orders.

Specialty mills, however, have not encountered any slump. Some mills report more orders on the books than a year ago, and a ten per cent increase in the number of employees.

It is felt by manufacturers that the decrease will be wiped out by Fall and most of the mills therefore have maintained their full crews, and are making some stock ahead for the Fall season. Paper mill cities generally have felt very little of the depression and unemployment prevalent elsewhere, and the lack of business pessimism has helped to keep up the stability.

Safety Conference Well Attended

With eight hundred registered delegates and several hundred persons attending in addition, the sixth annual conference of the Fox River Valley and Lake Shore Safety Council was held at Green Bay, Wis., on June 4. The gathering represents the climax to safety promotion conducted in the industries of each city during the year, and is the means of keeping up the interest and enthusiasm for accident prevention.

At the general session in the afternoon, William Hales, safety engineer of the Maryland Casualty Company, Baltimore, Md., spoke on "The Value of Human Life," urging that even the smallest items of safety effort may make a human saving. Fred M. Snyder, New York City, spoke on "Why?" revealing how worth while safety work is. D. D. Fennell, safety engineer of Chicago, was also on the program with an address on practical applications of safety. A playlet, "The Foreman Is Responsible for Accidents," put on by L. J. Engels and N. M. Wahl, of the Wisconsin Public Service Corporation, proved an interesting object lesson on methods of making employees safety-minded. C. R. Phenicie, president of the council, was the presiding officer.

Wisconsin Mills Well Represented

Practically all of the mills in northeastern Wisconsin were represented by groups of executives, foremen and employees at the sectional meeting in the morning dealing particularly with the paper industry. R. G. Knutson, of the Wisconsin Industrial Commission, was the presiding officer. A message from Samuel Pruyn, national chairman, was conveyed by W. F. Ashe, of the Thilmany Pulp and Paper Company, Kaukauna, Wis.

"Management as Applied to Safety" was the subject of an address made by J. M. Conway, president and general manager of the Hoberg Paper and Fibre Company, Green Bay. The subject of "Human Hazards in the Paper Industry" was presented by J. H. Slater, general manager of the Escanaba Paper Company, Escanaba, Mich. A discussion on these talks was then conducted by D. S. Howard, of the Kimberly-Clark Corporation.

Some good suggestions followed when F. J. Finkbeiner, deputy of the Wisconsin Industrial Commission, spoke on "Machine Hazards and Guarding," accompanied by a discussion led by Emil Umberhaum, of the Fort Howard Paper Company. Archie McComb, attorney of Green Bay, closed the program with a talk on "Public Attitude in Safety."

Officers selected by the council were chosen from the city of Fond du Lac, where the 1931 conference will be held. They are William Mauthe, president; Fred W. Hainer, assistant secretary, and F. W. Niles, treasurer. Harry F. Menzel, of Oshkosh, continues as secretary.

Public safety was given more attention on this year's program, and included a street parade in which were many floats depicting phases of safety for the layman. Pupils from Appleton and Green Bay were awarded prizes for preparing the best safety posters in a contest.

An appropriation of $100,000 has been released for immediate use for the new laboratory building soon to be erected by the Federal Government for the United States Forest Products Laboratory, at Madison, Wis. Plans include a complete experimental mill for pulp and paper making so that research can be given practical application before release to the mills.

A total of $900,000 will be spent for the building and it will be the largest wood research institution in the world, according to Carlile P. Winslow, director. Besides administration offices and a mechanical plant, the structure is to contain eight laboratories where government technicians will experiment on wood and its by-products. Mr. Winslow predicts that the staff of 200 workers will be doubled after the building is completed. The new laboratory will be located on several acres of land donated by the University of Wisconsin and adjoining the campus.

L. F. Knickerbocker Joins Riverside

The Riverside Paper Corporation, Appleton, Wis., formerly known as the Riverside Paper and Fibre Company, announces the appointment of L. F. Knickerbocker as general superintendent. He was formerly manager of the International Paper Company's mill at Berlin, N. H. He already has taken over his new work and expects to move his family to Appleton in July. Mr. Knickerbocker is a native of Appleton, and in earlier years was employed by the Fox River Paper Mills, the Kimberly-Clark Corporation, and the Neenah Paper Co.

News of the Industry

Whether the Combined Locks Paper Company can continue to serve its industrial village of Combined Locks, Wis., with electric current is to be decided soon by the Wisconsin Railroad Commission. A hearing was held last week at Kaukuana, Wis., where claims of the Wisconsin-Michigan Power Company and the municipal utility of Kaukauna as to their right to serve the village were heard. A subsidiary known as the South Shore Utility Company was organized by the paper company to handle the power service and contends that it should have the right to continue to serve the village.

George W. Mead, president of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., is building a large new summer home at Spring Lake, near Markton, Wis. A lumber camp at that point has been purchased by Mr. Mead and he has a crew of twenty men removing the buildings and erecting the new home.

Five hundred acres of new trees on the reforestation plats of the Nekoosa-Edwards Paper Company, near Butternut, Wis., were saved from destruction when a forest fire broke out in a 15,000-acre tract there last week. A crew of 300 fire fighters cut a fire lane between the burning area and the company's lands and checked the progress of the fire.

Announcement is made of the marriage of William Charles Wing, Jr., of Neenah, Wis., and Miss Dorothy L. Herrick, of Cherokee, Ia. The wedding took place at the latter city last week. Mr. Wing is the son of William C. Wing, president of the Fox River Paper Company, Appleton, Wis., and is associated with the company also. He is a graduate of the University of Wisconsin and a member of Phi Delta Theta fraternity.

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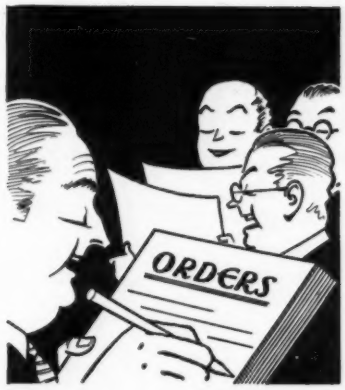

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4076

Another Big News Print Consolidation Rumored

Negotiations Said To Be Pending For Absorption of Anglo-Canadian Pulp & Paper Mills By Canada Power & Paper Corp.—Should Amalgamation Become Effective Canada Power Would Have Daily Production Capacity of 2,500 Tons of News Print

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 9, 1930.—Although no official news is forthcoming, the story is given publicity here that negotiations are pending for the absorption of the Anglo-Canadian Pulp and Paper Mills, Ltd., by the Canada Power and Paper Corporation which, if consumated, will make Canada Power and Paper one of the largest producers of news print in the world.

Canada Power and Paper Corporation was formed originally as a holding company for the Belgo-Canadian Pulp and Paper Company and St. Matrice Valley Corporation. The Laurentide Company was later taken over. In the past year control was acquired of the Port Alfred Pulp and Paper Corporation and the Wayagamack Pulp and Paper Company. The corporation now has a daily capacity of 1,944 tons. Should the corporation absorb Anglo-Canadian, it would give Canada Power a daily production capacity of 2,500 tons.

In Anglo-Canadian Pulp and Paper Mills, Ltd., Lord Rothermere is the principal figure. Negotiations for the absorption hence have to be conducted across the Atlantic—which has its difficulties, although it is believed that an early agreement will be reached.

Consolidation Steadily Proceeding

The news indicates that the long-talked-of consolidations in the industry are steadily proceeding. It is not long since the Abitibi Power and Paper Company absorbed mills in Ontario, Manitoba and Quebec which give it a total news print capacity of 2,200 tons per day. More recently the St. Lawrence Paper Mills, Brompton Pulp and Paper and Lake St. John Pulp and Paper Company were merged in a new organization known as the St. Lawrence Corporation, with the third place on the list of Canadian companies as far as news print capacity is concerned. In this tendency toward amalgamation is seen the final solution of the difficulties under which the industry has been laboring, for centralized control means many economies and less widespread competition.

Other Machines Coming into Operation

The news print mill now under construction at Buckingham, Que., by the James McLaren interests, will come into production in August next, with an initial capacity of 250 tons of news print per day.

From St. John, N. B., it is announced that with the installation of the fourth generator of 20,000 h.p., an order for which has just been placed with the Canadian General Electric Company, the capacity of the present plant of the Saint John River Power Company, subsidiary to International Paper Company at Grand Falls, N. B., will be reached. There are three similar generators operating at the present time and when the fourth has been put in position, the Falls will be delivering 80,000 h.p. and will complete the equipment called for in the original plan.

The purpose of the new unit will be to meet demands for current arising out of the installation of the second paper machine in the Dalhousie mill of the New Brunswick International Paper Company, whose plant was opened early this year. With the installation of this machine the Dalhousie mill will have a capacity of 500 tons of news print a day. Orders have already been placed by the company preparatory to the installation of this machine.

The Grand Falls energy is brought to the Dalhousie plant over a transmission line more than 100 miles long and stretching across nearly the entire nothern area of New Brunswick.

The $60,000,000 power scheme of the Beauharnois Power Corporation, of Montreal, proceeds apace. The Company has now assembled and placed in operation, on a twenty-four hour a day basis, its full quota of excavating equipment costing some millions of dollars. This equipment now operating at capacity is expected to complete the entire excavation work. The construction is being carried out by the Beauharnois Construction Company, a wholly owned subsidiary.

The construction railway now operates on thirteen miles of track; within a few weeks, it will parallel the route of the canal, a distance of fifteen miles. In addition to the grading and track-laying on the construction railway, much of the work of diverting the Canadian National line, to provide proper approaches as to the canal banks, has been completed.

The major equipment which has been assembled and placed in operation at Beauharnois to carry out the big job, includes: One hydraulic dredge; one 8 cubic yard electric shovel; one 4 cubic yard electric shovel; one 2 cubic yard electric shovel; seven gasoline dragline shovels; four 10 cubic yard steel tower excavators; fourteen locomotives; ninety dump cars; two camps to house 500 men with officers, hospital and powder magazine; one rock crushing plant; and one 26,000 barrel fuel tank.

Newfoundland Drops Huge Mill Project

Great relief is being felt in the news print industry here at the announcement from St. John's Newfoundland, that the Government of Newfoundland will not, during this session, submit to the Legislature any agreement for the establishment of a news print mill on the Gander River. This announcement was made in the House on Thursday last, with reference to the tentative agreement between the Reid Newfoundland Company and the Hearst Syndicate whereby Hearsts would establish and operate a mill with a daily output of 1,000 tons, contingent on the securing from the Government of supplementary timber areas in Labrador.

The Hon. Dr. A. Barnes, Colonial Secretary, read a communication which had been sent to the Reid Newfoundland Company giving the Government's stand in the matter. It stated that the Dominion Newsprint Company, the operating concern, had given no specific guarantee that they would undertake the enterprise; that the parties had sent no representative to Newfoundland to negotiate with the Government; that disposition of output, if the operation was undertaken, was not assured, and that the time in which the Government had been asked to consider the matter was altogether too limited.

The negotiations are supposed to have been between the Reid Company and the Hearst Syndicate, but the Government was not satisfied with the bonafides of the syndicate, or that it actually represented the Hearst interests. The suggested contract would have included the transfer of certain rights on Labrador. The syndicate sought a Government guarantee of $15,000,000, together with a rebate of customs duties on machinery and construction for 25 years.

The government of Walter Monroe, two years ago, in the hope that the Reid Newfoundland Company who are the owners of this property, and the International Paper and Power Company of Newfoundland, which was then looked upon as possible purchasers, passed an Act giving certain concession which in-

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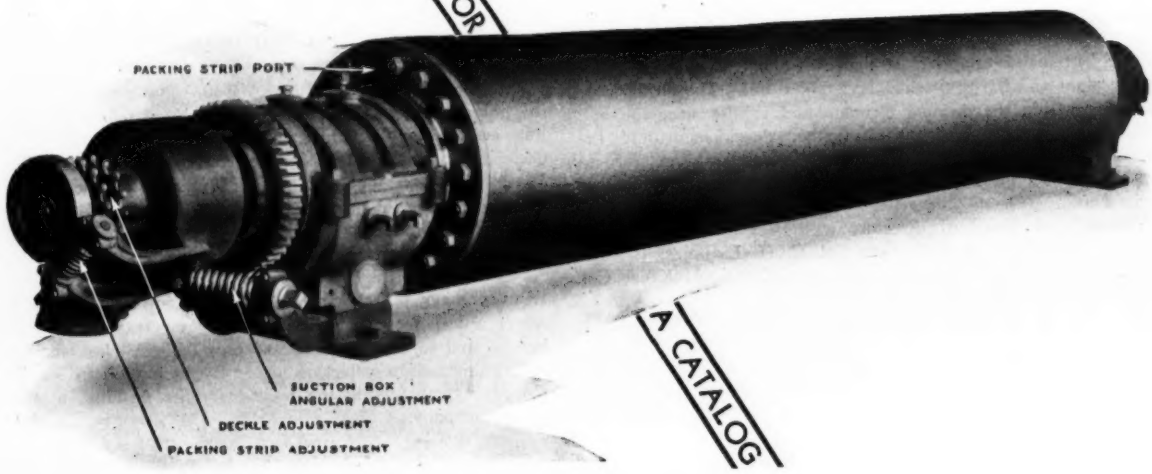


cluded the export of one-half cord of rossed or barked pulpwood from Newfoundland for each ton of paper manufactured.

The Reid Newfoundland Company, the vendors of the property, is said to have two possible customers—Hearst and the International. They are anxious to sell as negotiations have been going on for a number of years and the death of some of the principals of the Reid Company has brought the time when a legal distribution of the estates must be made very much nearer. The country, however, while it dislikes a new guarantee, is not anxious to see the International, which now controls very extensive timber areas on the west coast of Newfoundland, extend its holdings to the east coast, with the possibility of export of unmanufactured wood included.

The possibilities, in fact the almost imperative necessity, for the proposed new industry, had it been approved, securing rights to pulpwood areas on the Labrador may be judged by the following figures: International, with the daily news print production of 600 tons, controls timber areas comprising 8,062 square miles; the Anglo Newfoundland Development, with a production of 400 tons per day, controls 6,696 square miles of timber areas; the Gander properties, including two areas situated in the two northern peninsulas, with a proposed output of 1,000 tons per day, control only 5,366 square miles. That is to say, with an area of only one-third the combined areas of the International Power and Paper Company and Anglo Newfoundland Development Company, the Gander prospects were for an output equal to the combined paper productions of the two foregoing plants. It is felt by some that these Newfoundland areas would be entirely insufficient to supply the demands of pulpwood to a mill of such proportions, although no mention was made of Labrador areas by the government, engineers had no hesitation in declaring such were actually under consideration.

Shawinigan's $94,000,000 Development

The Quebec Public Service Commission has now given the necessary legal sanction to the great power development scheme of the Shawinigan Water and Power Company on the Upper St. Maurice river. According to estimates given by the company to the Commission, when the stretch of the St. Maurice in question is under complete development, production will reach 1,208,000 h.p., while estimated cost of the total installation may go to $94,500,000. Work will be started at once on the first installation of 160,000 h.p., and production is expected to commence in the fall of 1932.

Mersey Paper Co. Annual Meeting

At the annual meeting of the Mersey Paper Company, Ltd., Col. S. H. L. Jones stated that full production was achieved four months after operations commenced, and that although only equipped for the production of 250 tons a day, an output of approximately 275 tons a day has been reached on certain days during its period of operation last year.

The business under consideration largely dealt with the mill's construction, covering the year up to December, 1929. It was pointed out that every forecast figure of the past as to the cost of the plant and its profits had been borne out. The cost of the mill was within the original estimate and results since the mill commenced operation warranted further development and expansion. Plans for the enlargement of the plant and for increased production were considered but no definite decision was arrived at.

The original board of directors was elected without change. It is composed of the following: Col. C. H. L. Jones, J. McG. Stewart, K.C., Frank Stanfield, M.P.P., John C. McKeen, Col. J. L. Miller, W. H. Chase, and J. P. Douglas.

B. C. Pulp and Paper Co.

From Vancouver it is announced that operations of the Port Alice and Woodfibre plants of the British Columbia Pulp and Paper Company are being carried on at capacity, production totaling in excess of 200 tons of pulp per day The stocks of pulp accumulated at the end of the year were completely moved during January and February, thus putting the company into a strong cash position.

Sues To Recover $30,000 on Pulpwood Sale

[FROM OUR REGULAR CORRESPONDENT]

PLATTSBURG, N. Y., June 9, 1930.—A jury trial was started this week in Supreme Court here on an action brought by the Keene Lumber Company against the J. J. Rogers Paper Company, of Ausable Forks, in an effort to collect $30,000 alleged to be due for pulpwood sold and delivered. In a counter-claim the defendant paper company is suing for $60,000 alleged to be owed officials for assistance in negotiating sale of lands owned by the plaintiff in this state. The plaintiff's case hinges on a contract made before the war between Thomas J. Cotter and J. F. O'Brien, doing business as the Keene Lumber Company, and the J. J. Rogers Company for the sale of all wood from a certain tract of land for $9 a cord. The contract was subsequently cancelled but deliveries were made both before and after that time at various prices ranging upward to $20 a cord.

As the surviving member of the lumber company Mr. Cotter claims that about $30,000 is now owed him for shipments of pulpwood and he seeks judgment for that amount. I. H. Chahoon, of the Rogers Paper Company and a principal stockholder, contends in his counter-claim that under an agreement with the late Mr. O'Brien he was to receive $60,000 for assisting in sale of lands to the state and he in turn asks judgment. The Rogers concern is represented by Judge Joseph Rosch, of Albany, while Judge James McPhillips, of Glens Falls, is appearing for the plaintiff concern.

Merger Rumors Persist

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., June 9, 1930.—Rumors of a merger of the St. Regis Paper Company and the Crown-Zellerbach interests continue in paper mill circles despite denials by officials of both concerns. The Crown-Zellerbach Company now owns 50,000 shares of St. Regis stock and although this is only a small percentage of the stock outstanding it is a well known fact that both concerns have been working close together for some time past.

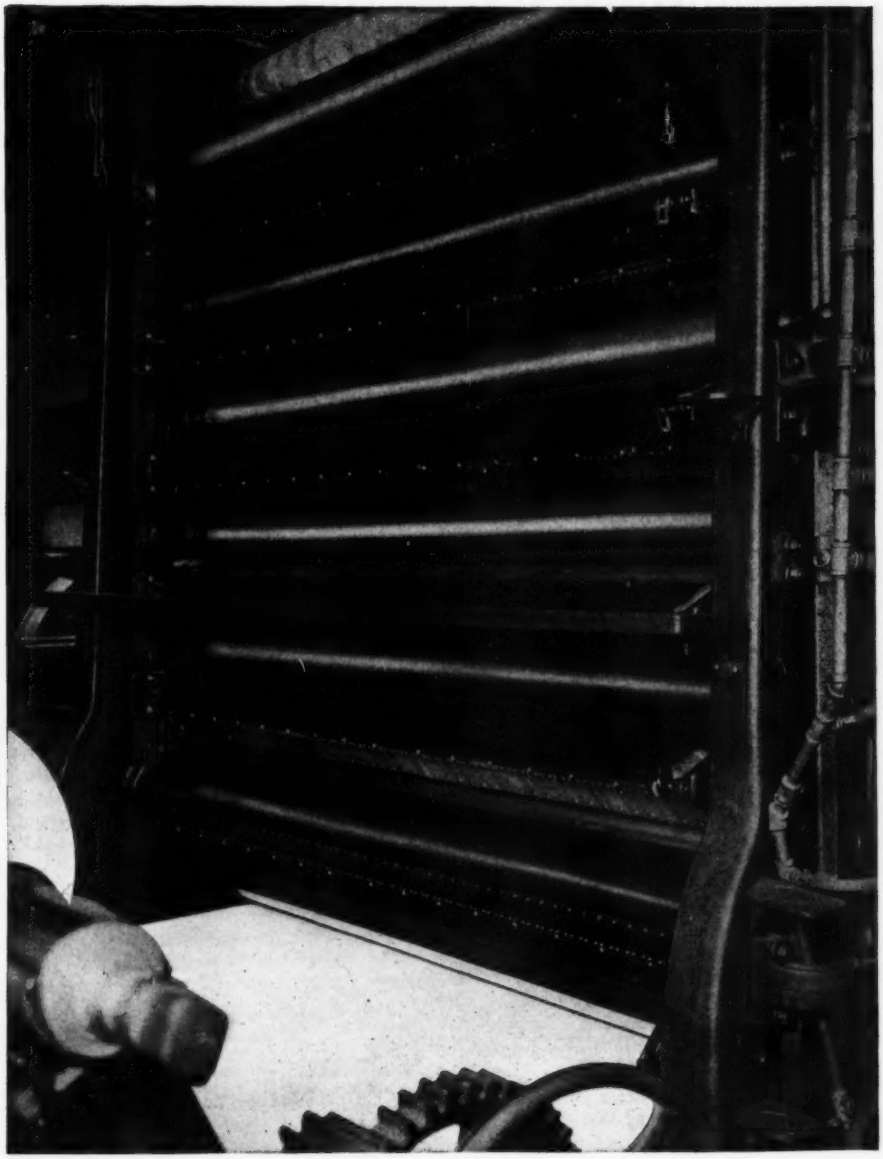
The principal benefit to Crown-Zellerbach through an alliance with St. Regis would be the opportunity to develop its business in the eastern section of the United States. It is already felt that the steady growth of the Crown-Zellerbach interests makes it essential that outlets for its products should be found in markets other than the Pacific Coast, which also adds to the possibility of such a merger in the near future. A certain community of interest between St. Regis and the Crown-Zellerbach already exists due to the fact that the former with its control of the Bates valve bag patents offers a desirable outlet for kraft tonnage which Zellerbach has available in its Port Townsend mill.

Gets Last Pulp Shipment From Tacoma

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., June 9, 1930.—The work of completing the unloading of the last shipment of baled pulp for the Union Bag and Paper Corporation from the Tacoma mill this week necessitated a large force of stevedores. The pulp mill at Tacoma, Wash., has been supplying the local mills with the product for some time past in large quantities but the recent sale of these interests will make it necessary for the local mills to secure it from another source.

Shipments of the pulp to this village were made by ocean steamers over the Panama Canal route into New York harbor where a transfer was made to barges for transportation up the barge canal to the Fort Edward terminal. All last summer and so far this season a fleet of motor trucks have been steadily employed in transferring the pulp from the terminal to the mills of the company.



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Philadelphia Paper Market Shows Firmer Trend

Future Outlook Considered Brighter, Due to Strengthening of Prices—Business Fairly Well Maintained In Fine Paper Section—Book Grades, Writing Papers, and Card Boards In Good Demand—Summer Specialties In Excellent Request

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 9, 1930.—Strengthening of prices in the week indicated firming of the paper market and its business trend with regard to the near future. While the trade does not look for material improvement throughout the hot weather it does believe that there will be no further drastic price deflations but on the contrary a steady rise in values in those grades that were severely cut. As the thermometer soars the trade is kept busy with shipments of paper suitable to the advent of torrid temperature and seasonally active lines such as sanitary specialties, drinking cups, ice cream and soda fountain supplies, glassines, wax proof papers and containers that will meet the summer needs of the food industries. Distributors who have given much time to research of new markets for paper specialties have been rewarded for their efforts. Such specialties as those used by confectioners, bakers, hotels, clubs, institutions, and cigar, automobile, radio and furniture manufacturers in both papers and boards are keeping the distributors busy when other standard lines are drifting along. The same holds true of the manufacturers and converters who have gone more thoroughly into the new markets for paper and allied products.

Distributors of fine papers while reporting a limited amount of trading in a spotty market state that business is fairly well maintained in view of conditions. Consumers of volume orders are buying in normal quantities under contract and keep the merchants and mill men in activity on a parity with last year's business. April was, however, a better month than May, which held to the levels of 1929, while the previous month's average was slightly higher, according to reports of the mill men and wholesale dealers in fine papers, with demand chiefly in book grades, better writing papers and card boards.

A most hopeful sign of the strengthening of the paper market was the announced raise in the price of Southern kraft in the early part of the week when the manufacturers from below the Mason and Dixon Line advanced prices $5 per ton. Kraft dealers here were greatly pleased with this evidence of firmer prices and look for improved business when consumers begin to prepare for the coming Fall. Bag dealers are also more assured in the future outlook and place orders now with greater confidence of steady prices to hold over deliveries—a situation which is much desired owing to the demoralized bag market that followed the break in the price of kraft and which was reflected in the cutting into values of the converted products.

Paper Trade Association Discusses Credits

A special meeting of the Fine Paper Division was called last Wednesday to propound the credit situation and to consider the adoption of uniform credit terms and clearance measures conforming to plans of national scope and approval. The meeting, held at the Down Town Club, was well attended and brought into session the majority of fine paper dealers. The advisability of adopting the Uniform Credit Terms and the Credit Clearance Plan recommended by the National Association of Credit Men was considered. This plan has unanimous approval and endorsement of the printers of Philadelphia and the local association is now taking steps to develop the local credit interchange, which has been operating since January, 1930, with about nine members, to include the entire paper trade of Philadelphia.

Paper and Twine Association to Hold Outing

The Annual Outing and Golf Tournament of the Paper and Twine Merchants Association will be held on June 25 according to plans tentatively formed at the May meeting of the organization when a committee of which John J. Birl, Jr., of the American Forest Products Company, is chairman, was appointed to arrange further for the outdoor event. There will be the contest for the Golf Cup on the links of the Baderwood Country Club at Jenkintown, near Philadelphia. In conjunction with the Golf Tournament will be contests in quoits, tennis and other sports and luncheon and dinner at the Club House, when prizes will be awarded to the winners of the various scheduled sports and contests. Further plans for the outing and golf match will be announced at the June meeting of the association scheduled for the 20th at the Adelphia Hotel. At the May meeting there was almost 100 per cent attendance of the members when around the luncheon table the paper trade associates heard Russell Green, prominent Philadelphia and Montgomery County attorney talk for the 300th time on "Romance in Business." This talk must be given 500 times and on the last step in that figure the speaker will be the honored guest of the Poor Richard Club, the Quaker City fraternity of advertising men to which Mr. Green belongs.

Paper Men Appointed to Typothetae

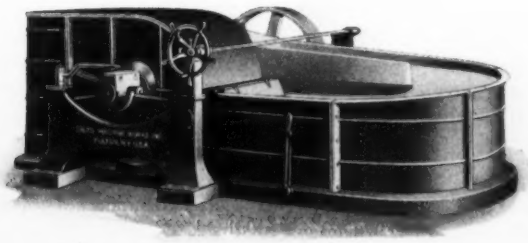
A. Richard Hartung, of A. Hartung, Inc., 506 Race street, was elected to the Board of Directors of the Philadelphia Typothetae, representing the Paper Trade Association at the annual meeting of the master printers body held at the Cedarbrook Country Club last Monday. Harry A. Donahue, of the Molten Paper Company, was re-elected vice-president representing the allied industries. Members of the Paper Trade Association joined in the golf contest with 87 members participating at the annual session and those from the paper industry who captured prizes were O. W. Wiley, of the Whiting Paper Company, Philadelphia branch, who captured the 1st prize in the golfing contest as winner of the Kickers Handicap on net score, and Paul K. Craig, special representative of the Warren Paper Company, winner of the 2nd prize, both having scored 71 in a tie game and drawing for the prizes. Winners of the putting contests were R. W. Rexford, Jack Heigh, E. C. Vaughn, R. L. Warren, Walter Knecht, and of the Quoits Contests, Jack Harrar and Harry C. Stilley. Henry Considine, of the Paper House of Pennsylvania, won the door prize—a china wall cock, donated by William Squibb of the Godfrey Roller Company.

Morgan H. Thomas Improving

While the relapse suffered from complication that followed his recent operation for appendicitis and hernia has prolonged the confinement of President Morgan H. Thomas, of the Garrett-Buchanan Company, to the hospital, it is expected that he will improve sufficiently by mid June to be able to leave the institution. Mr. Thomas has been confined to the Bryn Mawr Hospital for the past two months and was about to leave in mid-May when the complication from which he now suffers occurred necessitating a prolonged sojourn in that institution for treatment. However, it is reported by officials of the Garrett-Buchanan Company that he is making progress.

Garrett-Buchanan Adds to Baltimore Staff

There is now associated with the Baltimore, Md., offices of the Garrett-Buchanan Company, 17 Guilford avenue, B. F. Bond, Jr., for over ten years president and treasurer of the B. F. Bond Paper Company, and for 21 years connected with the firm which conducts a paper business in the Maryland metropolis and is one of the largest paper houses in the territory south of the Mason and Dixon Line. Mr. Bond, who joined the Garrett-Buchanan staff

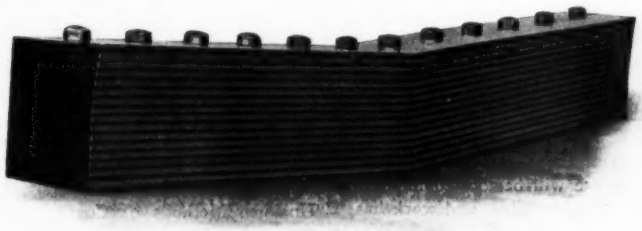


- WHY -

DILTS NEW TYPE BEATING ENGINES

mix more thoroughly, do their work faster and more economically than others.

This is the ninth of a series of advertisements, picturing some of the reasons—features, in design and construction—which make Dilts New Type Beating Engines most suitable for your Beater Room requirements . . . . . *Ask for additional data.*



We make the Bedplates and Fly Bars for our Beating Engines. Accuracy in their manufacture is essential for the good performance of the Beating Engine. We furnish steel plates of any style tempered or not tempered as required. We can also furnish bronze or stone Bedplates.

DILTS MACHINE WORKS INC.
FULTON, N. Y.
"Your Paper Is Made In Your Beaters"

last week, is in charge of the Baltimore offices. He is associated with C. D. Lamkin, who was also a member of the B. F. Bond Company, as its vice-president. Both of the future Baltimore sales representatives of the Garrett-Buchanan Company have resigned from the Bond concern following reorganization of that company. The Garrett-Buchanan Company will conduct a general paper business through its newly appointed sales offices and the staff members who are well known in the trade.

Van Reed Paper Co. Expands

The building program which will promote plans for expansion of the Van Reed Paper Company Division of the Garrett-Buchanan Company, in Reading, Pa., is now completed and the firm ready to extend its business in the section adjoining the Reading territory. The building plans involve the addition of a new twin structure to the present quarters at Reed and Elm streets, Reading, which have long been occupied by the Van Reed Paper Company, one of the pioneer paper manufacturing and distributing houses in America, with a history which extends beyond the Revolution days and into the early Colonial Period of American history. The new structure is two stories in height and is equipped with all modern devices for handling papers. It will enable the firm to provide a better service to its patrons and to carry a larger stock of these on hand for speedy shipments to its customers. There is erected across the top of the building a large electrical sign bearing the title of "Hammermill Papers."

Veteran Trade Associate Passes

Daniel J. Bishop, 74 years of age, passed away at his home, 2010 Mount Vernon street, last Wednesday, following an illness from the infirmities of age which extended over three weeks. Known to the paper trade and to many friends in Philadelphia as "Uncle Dan," he was for 45 years linked with the D. L. Ward Paper Company, 28 South 6th street, where he was in recent years connected with the indoor sales staff. D. L. Ward Company employees and officals attended his funeral, held at St. Matthias Protestant Episcopal Church. Mr. Bishop was past master of Lodge No. 3, F. and A. M.; past high priest of Keystone Chapter, R. A. M.; and past commander of St. John's Commandery, No. 4. He was a 32nd degree mason, oriental guide of Lu Lu Temple, a member of the Board of Directors of the William L. Elkins Masonic Orphanage and honorary president of Beta Phi Fraternity. Surviving are two daughters.

Michigan Paper Co. Makes Improvements

KALAMAZOO, Mich., June 9, 1930.—A program of general improvements and additions that will require an outlay of approximately $350,000 has been inaugurated by the Michigan Paper Company, Plainwell. The first step will be the erection of a new power plant, the contract for which has been awarded to the O. F. Miller Company, of Kalamazoo. This structure will be located immediately adjacent to the company's present power plant and work has already started on it.

The building will be of high grade construction throughout. It will have a structural steel frame, hollow tile walls, concrete floors and a cement tile roof. The dimensions will be approximately 50 by 108 feet. It will be 70 feet to the top of the coping.

This structure is planned to accommodate three 600 horsepower boilers, with the most approved equipment throughout. It is planned to install two units at once, as 1,200 horsepower will be ample to meet the load demands of the Plainwell plant. The Michigan Paper Company has of late been doing considerable work changing its power from steam to electricity. This program is to be continued as soon as the new power plant is finished. C. F. Hershfeld, Detroit, is in charge of the general engineering. He planned the power plant for the Kalamazoo Vegetable Parchment Company.

Michigan Paper officials announce that the present program is not for the purpose of increasing capacity or output, but to make for greater efficiency in operations and lower costs.

New Course at State Ranger School

A new course is being established at the New York State Ranger School starting April 9. The Ranger School is a branch or the State College of Forestry at Syracuse and is located in the Adirondacks on the shores of Cranberry Lake. The Ranger School trains men to fill the gap between the professional forester and the lumberjack.

This course originally ran from March to December. The old frame buildings in which the school has been housed since 1913 made it impossible to keep students and faculty comfortable during the winter months. The new $200,000 concrete building recently completed is equipped with all modern conveniences and living quarters for students and faculty throughout the year. This has made it possible to elaborate the Ranger Course which will start this month and continue until the later part of March 1931.

Students are admitted to the Ranger School who have completed a high school education or who can furnish other satisfactory evidence of preparatory work. The course is intensive and is devoted to the fundamentals of some of the principal branches of forestry with special stress upon engineering, the growing of trees and cruising or estimating timber. Field work in all seasons of the year is the feature of the course which involves long trips throughout the Adirondack forests by canoe and afoot. Graduate Rangers find positions with the industries, the Forest Service and on large forested estates and some of them have risen to excellent positions.

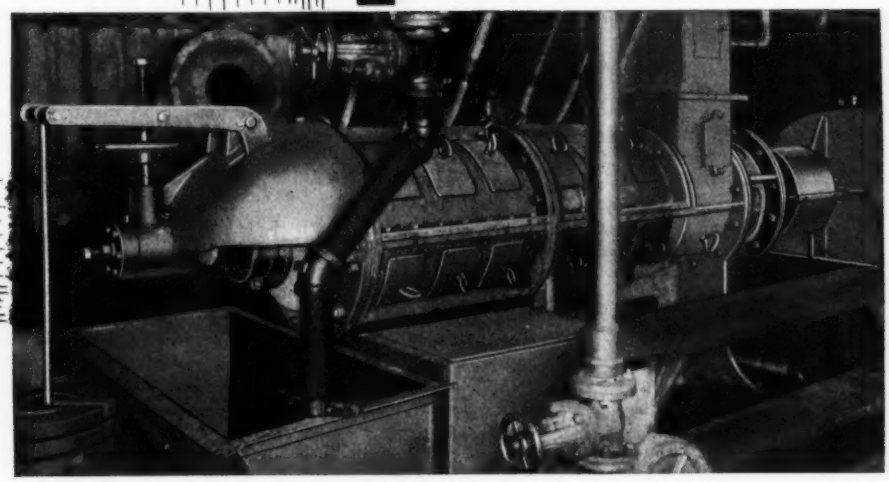
Five hundred acres has just been added to the Ranger School Forest making an area of twenty-three hundred acres upon which considerable research and practical instruction is done. The Ranger School is helping to develop the Town Forest of Fine, a village eighteen miles from Ranger School, located on the new concrete highway that runs north from Watertown to Cranberry Lake and Tupper Lake. The Ranger School faculty is composed of five graduate foresters who have had experience in the Forest Service and the industries. It is under the direction of James F. Dunbar, a graduate of the Michigan Forest School and a former member of the United States Forest Service, having been engaged on the National Forests of the West.

Chicago Paper Association Meets

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 9, 1930.—A special meeting of the Chicago Paper Association was held on Monday evening, June 2, at the Bismarck Hotel, with Arthur Blackman, vice president of the National Paper Trade Association, and Frank Floyd, executive secretary of the National Paper Trade Association, as guests. Mr. Blackman, who is also connected in an executive capacity with the D. F. Munroe Paper Company of Boston, spoke on the subject of "Uniform Methods of Cost Accounting." His experience as a paper executive and in connection with the association made it possible for him to give an understandable picture of cost accounting practices as applied to the trade and the 45 members and guests present thoroughly enjoyed his treatment of the subject. Mr. Floyd, who for many years prior to his election of executive secretary of the Association was connected with the Crescent Paper Company, of Indianapolis, Indiana, followed Mr. Blackman on the program. He presented the view points of the merchants themselves and of the association, speaking with experience in both positions. Many interesting problems were touched upon and members of the association were given an excellent picture of how the National Paper Trade Association fits into the retail business of the member. Both executives are making a tour of the United States and their report that business generally seemed a bit more firm and showed signs of strengthening was received with much interest. Leo Altholz, of the Inlander-Steindler Paper Company, chairman of the board of the Chicago Paper Association, presided at the meeting.

A PROVEN PROFIT PRODUCER



The CHEAPEST and QUICKEST method for dewatering pulp

Do you want to simplify your dewatering problem?

Do you want to materially cut the cost of this important operation?

You can do it with the Valley-Voith Screw Press. Other mills are doing it.

Twenty-six installations are proving that this machine is absolutely the most satisfactory and profitable method for removing water from pulp. Not only is it suitable for ordinary dewatering operations, but is solving special problems as well.

If you want to learn just what results this machine is accomplishing, and what it can be expected to do for you—write the Valley Iron Works Co., Appleton, Wisconsin.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Mfg. & Sales Div.: Smith & Valley Iron Works Co., Portland, Ore.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Paper Mills Moderately Active in Ontario

Operations Generally Proceeding On Satisfactory Basis, Although Few Manufacturers Have Orders Booked More Than Several Weeks Ahead—Fine Paper Plants Busy, With Good Demand For Book Papers—Coarse Paper Mills Running Light

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 9, 1930.—With something like 300,000 outsiders present at the big Shriners' convention consumption of paper in Toronto and district was materially increased, extra business going to both the paper merchant and the printer. Even outside of this item, however, June opened with a noticeable loosening up of paper sales consonant with gradually improving business conditions throughout the province and while it is admitted that orders are not easy to get, the volume of sales is increasing somewhat. In some cases it was reported that sales for May were almost equal to those of the same month last year as far as fine papers are concerned and June promises well. There may be a bit of a slump during the holiday season which is about to be entered upon but general improvement in trade points to a distinct revival as soon as the vacation period is over and the fall months arrive. As far as coarse papers are concerned the market is still very spotty. Paper bag prices were revised downward during the past week in sympathy with the drop in kraft and general wrapping papers but the cut is not very drastic and will only affect the larger purchasers. Incidentally it may be mentioned that following the cut in wrapping papers a week ago new price lists show a slight upward revision from the schedule issued when the new price lists came into effect a few days ago.

Paper manufacturing operations, for the most part, are proceeding on a satisfactory basis although it must be said that few of the fine paper, coarse paper or specialty mills have orders farther than a few weeks ahead, and some of them are pretty well up to the machines. Fine paper plants are fairly active with a good demand for book papers and a fair demand for ledgers, bonds and writings. Wrapping paper mills are running light and there is not much business ahead of the paper bag machines. Demand for kraft is keeping up well and there is some nice business passing in flour sacks. One of the busiest sections of the paper manufacturing trade is that devoted to tissues and toilets, along with their specialty departments. There is a good call for all lines of light weight paper. On the other hand, the paper converting trade is still quiet as shown by the record of the manufacturing stationers and envelope manufacturers. This has been occasioned by poor business conditions generally throughout the province of late and the consequent cutting down of office supplies. There is still considerable over-production in the paper board line and the market in that commodity is weak. The situation is not helped out any either by decidedly quiet conditions in the paper box industry which is the principal source of output for the paper board manufacturers. It is believed, however, that surplus stocks of board will soon be disposed of and the industry brought back again to normal.

Rain Checks Fires in North Woods

Much valuable timber and pulpwood have been destroyed by bush fires during the past couple of weeks in Northern Ontario and relief was only brought to over 500 fire fighters last week when rain descended on the Kenora and Port Arthur districts. Eighty miles west of Port Arthur the railway hamlet of Larson fell a prey to the flames and several other small places have been threatened and some laid waste. The Ontario Forestry Branch has been rushing as many men and as much equipment as they could get together into the zone and it is believed that the worst of the menace is over. Port Arthur's immediate fire hazard disappeared early this week when showers dampened the scorched ground at Brent Park, at the city's northern outskirts. Fire at times threatened to sweep into the thickly populated sections of the city. At the moment over 1,000 equipped men are working for the Ontario Government fighting fires in Northern Ontario and hundreds more will be added by the department which considers the situation one of the worst they have yet been called upon to face. Many square miles of pulpwood have been burned and the menace has crept right up to the doors of thriving towns, taking farm lands in its path.

Have Consolidated Woods Operations

With a view to the attendant operating benefits, it has been decided to organize a single unit for handling all the woods operations at the Head of the Lakes of the Fort William Division of the Abitibi Power and Paper Company, the Thunder Bay Paper Company, and Provincial Paper, Ltd. H. G. Schanche, general manager of woods operations, Abitibi Power and Paper Company, has made the following appointments effective June 1: W. S. Merchant, formerly manager woods operations of the Smooth Rock Fibre Division, to be manager of woods operations at the Head of the Lakes; H. B. Tanner, of the woods department of the Iroquois Falls Division, to be manager of woods operations of the Smooth Rock Fibre Division to fill the vacancy created by the promotion of Mr. Merchant; W. J. Greer, manager of woods operations of the Fort William Division of the Abitibi Power and Paper Company and of the Thunder Bay Paper Company, to be in charge of the purchase of wood for all the companies, from settlers and independent operators; C. A. Gardner, formerly woods manager of Provincial Paper, Ltd., to be in charge of operations within the holdings of the companies and of driving and towing operations; A. J. Auden, formerly assistant woods manager of the Fort William Division and of the Thunder Bay Paper Company, to be in charge of all forestry work, logging, engineering, control and scaling.

Progress Made by Dryden Paper Co.

Dryden Paper Company, with mills at Dryden, Ont., is said to be making satisfactory progress in view of the poor conditions which surround the kraft paper industry. The export market for kraft has been virtually eliminated by over expansion and price cutting in the United States, but the company's domestic business is holding up quite well. Dryden does most of its business in Western Canada and only a negligible proportion of its output finds its way east. While sales have been affected by general business conditions in the west, it is stated that collections are as good, if not better, than they ever have been. Thus the outlook for the current year which ends September 30 is encouraging. Net earnings in the previous fiscal year amounted to $351,823 or the equivalent of $1 a share on the common stock, and though profits are hardly likely to equal those of last year it is not thought that the financial statement will reveal a drastic drop. Dryden's contract with the Bates Valve Bag Company supplies an outlet for a substantial portion of its output. The Bates company has installed machinery in the Dryden plant for the manufacture of cement bags under the Bates patents and though this division was slacker during the winter months it is reported that it is now operating on a satisfactory basis.

Suffers from Over-production

The kraft industry is laboring under difficulties similar to those which afflict the news print industry, namely, over-production. Wide expansion undertaken in the Southern United States and erection of large mills operating at low cost has resulted in keen competition and subsequent price cutting. Unlike the news print

JAY MADDEN announces his resignation as Vice-President and Director of PARSONS & WHITTEMORE INC., and the formation of THE JAY MADDEN CORPORATION.

TIMES CHANGE—

PERHAPS YOUR EXPORT BUSINESS IS NOW MISMANAGED.

PROBABLY IT LACKS A DEFINITE POLICY.

●

The ideal and practical solution of your foreign marketing problem is doing a DIRECT business in the larger overseas territories under experienced and capable guidance.

We are prepared to organize and manage the export business of larger individual mills and groups of mills producing similar qualities and if desired finance it.

●

THE JAY MADDEN CORPORATION

100 East 42nd Street, New York, New York

Pershing Square Building

manufacturers, the Canadian kraft makers have not been able to retain their market in the United States since it is impossible for them to compete on a cost basis. Dryden Paper, however, is a comparatively small producer and domestic business and the Bates Valve contract have enabled it to weather the storm fairly successfully. The company's production comprises about 25,000 tons of sulphite pulp annually.

Notes and Jottings of the Trade

At a meeting of the directors of the Abitibi Power and Paper Company, held recently in Toronto, W. H. Smith, formerly secretary and treasurer of the company, was elected a director and assistant managing director. In the appointment Abitibi has followed the principle of recognizing the services of its long-term employees, Mr. Smith having been with the concern for the past sixteen years. T. Broadhurst was elected secretary, L. B. Popham becomes assistant secretary, H. Young treasurer, and A. J. Cormack assistant treasurer.

C. Howard Smith, managing director of the Howard Smith Paper Mills, and his sales manager, George E. Davidson, were in Toronto last week calling on the company's customers.

Charles V. Syrett, head of the C. V. Syrett Paper Company, front street east, Toronto, has been elected a director of the Royal Empire Society, whose headquarters are in London, England.

Charles S. Taylor, popular salesman for the Alliance Paper Mills, Toronto, left a few days ago on a business trip through the Maritime Provinces.

J. T. McLellan, construction manager of the Backus Brooks Company, who was in charge of the erection of the plant of the Great Lakes Paper Company at Fort William, is now supervising the building of an insulite plant at Karhula, Finland, for the Backus Brooks interests. Mr. McLellan says that they are on the job trying to push it through so that manufacturing can be started this year. He adds that the climatic conditions in Finland are very much the same as in Northern Ontario.

The Murray Bay Construction and Logging Company, Ltd., La Mabeaie, Saguenay district, has been granted a Dominion charter with power to carry on business as lumber merchants and pulpwood operators. The authorized capital is $20,000.

It is likely that the closing down of the Frankford mill of Canadian Paperboard Company, Ltd., which is now in the hands of a receiver, will only be of a temporary nature. The mill had an output of 30 tons of ground wood pulp daily and 50 tons of all grades of paper board. Heretofore the three mills of the company have been working 20 days a month. With the Frankford plant closed down it will be possible to step up the production of other units and still maintain production on a lower cost basis. It is stated that a number of other economies are being adopted in the operation of the company's plant in Toronto.

In recognition of the successful research into the reason for the discoloration of pulp carried on for more than a year now, the Powell River Company, Ltd., of Powell River, has requested the governors of the University of Columbia to accept a second grant of $5,000 for continuance of the investigation. The grant is offered without solicitation and solely because of the important progress made in this work by Professor Wilfred Sadler, of the faculty of agriculture, and Dr. Blythe Eagles.

The Midland, Ont., branch of International Fibreboard Company, Ltd., is resuming operations after being closed down for nearly two years. The pronounced demand for the product of the company has made it necessary to start the plant again. In March, 1929, one of the outbuildings and a certain amount of stock were destroyed by fire but that will not retard getting the plant back into production.

Away back in 1886 Alexander Bunton established a ground wood pulp mill at Valleyfield, Que. This was the first ground wood plant on the continent. The first sulphate pulp mill in North America was located at East Angus, Que., being conducted by the Brompton Pulp and Paper Company. This mill made sulphate or kraft fiber in 1908 and has been turning it out ever since.

The steamer *Wahcondah,* belonging to the Abitibi Power and Paper Company, was completely overhauled during the past season at Owen Sound, Ont., and special machinery installed for the handling of news print. The *Wahcondah* will engage in the business of carrying paper between Port Arthur and Chicago. Capt. F. C. Moles, of Collingwood, is in charge.

Provincial Paper, Ltd., has constructed a new smoke stack on its Thorold mill, the work having been done when the plant was closed during the cleaning out process of the canal by the Government.

Work is under way by the owner-company's forces on rebuilding of the plant at Deux Reiveres, Ont., for the Canada Power and Paper Company, W. R. Beatty, Pembroke, Ont., manager. The plant was damaged by fire last February with a loss of $10,000.

The first sheet of paper was turned out a few days ago at the new $750,000 plant of the Westminster Paper Company, Ltd., at New Westminster, B. C. A commercial sheet was produced in ten minutes. R. F. Arnett, the president, was present, together with the directors, as the plant resumed operations again after having been burned down last July. Arrangements were made for an official opening and in the meantime production of paper will proceed and adjustments of machinery made.

Bearing the legend "There is a Provincial Coated Paper for Every Printing Use," Provincial Paper, Ltd., has mailed out from its head office in Toronto, a portfolio of Provincial coated papers containing samples of the grades, sizes, and colors. It is covered with Sachem Cover, autumn brown, single thick, and has been very artistically made up.

Interest in Wiping Cloth Association

Nothing that the National Association of Waste Material Dealers, has ever done in connection with the organization of its various divisions has met with such prompt and enthusiastic support as has its suggestion that those interested in the wiping cloth branch of the industry should organize and make immediate plans for putting the wiping cloth industry on a basis where it will command the respect both of those engaged in it and the many thousands of those who must look to it for a commodity almost universally used.

The secretary of the National Association of Waste Material Dealers with headquarters in the Times Building, New York, reports that within ten days of the time the initial announcement went out, over 65 concerns embracing most of the leading concerns of the country had signified their interest and their willingness to cooperate in this movement to bring together those interested in the industry for the purpose of formulating plans for putting the industry in a position which it should occupy. It is planned to hold the organization meeting some time in June and a large and representative gathering from all sections of the United States and Canada at that meeting is already assured.

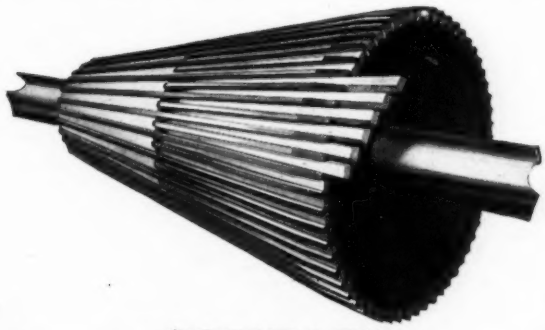
Those interested who have not already communicated with the Secretary with a view of securing detailed information should do so at once.

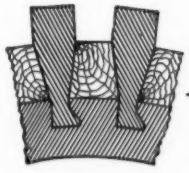
Brotherhood Completes New Organization

[FROM OUR REGULAR CORRESPONDENT]

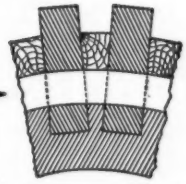
ALBANY, N. Y., June 9, 1930.—Officials of the International Brotherhood of Papermakers returned here this week after completing organization of a union in a city in Northern New York and it was announced that they would confer next week with representatives of the Advance Bag and Paper Company, at Howland, Me., relative to new wage and working agreements. Representatives of the union accompanied by Jacob Stephan, head of the pulp workers' organization, were summoned earlier in the week to Fort William, Ont., on receipt of information that there is a strong possibility of a settlement being made with the Backus interests regarding wage agreements. The controversy has been going on for several weeks and for a time threatened to tie up operations.

BOLTON INVERTED WEDGE PLUG





COMPARE



Inverted Wedge Plug

Wedges larger base than top—Solid Wood—no notches. Knives and wedges locked into Plug body. Both driven in from end. Cannot raise or spring. Increased Pressure makes tighter fit. One Plug takes any size Knife.

PATENTS PENDING

Ordinary Plug

Wedges larger top than base. Work loose and wash out. Knives up on Stilts above Plug body. Rings and Woods only support Knives. Increased Pressure lifts Woods and Knives, stretches and snaps Rings. Change in Knife size requires another new Plug.

MAKING EVERY GRADE PAPER

Now making every grade of paper—over 100 running in 50 mills. Chip board to finest quality papers—dump stock to 100% rag. Many used on hardest service for over 5 years—never a complaint. Waste paper service increased from 6 weeks to 6 months, in some mills to 12 months. Lowers cost often 30% to 50%. Used in every make and size of Jordan—any size or kind of knives. No need to waste power grinding knives, use your power on your fibre. Let your knives wear out—not tear out.

TEN FACTS

1. *Inverted wedges*—cannot come out.
2. Reduces maintenance and renewals
3. Absolute rigidity—eliminates vibration
4. An easy one man job to install and replace.
5. Greater utility—one plug takes any size knife.
6. You never have to buy another plug
7. Increases production with longer life
8. Provides perfect control—less power and better paper
9. Universal application—any size any Jordan
10. Quickly pays for itself out of savings

BOLTON KNIVES

Bolton knives will reduce your cutting costs to an absolute minimum and are guaranteed without reservation for quality, finish and fit.

Pulp Mill Knives for

Chippers
Barkers
Hogs
Shredders
Washers
Beaters
Refiners
Jordans

Paper Mill Knives for

Rotary Sheet Cutters
Trimmers
Flat Bed Cutters

John W. Bolton and Sons, Inc.

LAWRENCE : : : MASSACHUSETTS

3818

Obituary

John Edward Hall

BOSTON, Mass., June 9, 1930.—John Edward Hall, 75, a member of the paper industry for many years, died May 31 at his late residence in Somerville, Mass., where he was born and had lived all his life. After he had finished his academic education at the Chauncy Hall School, he took a position with the Rice, Kendall Company. Twenty-five years ago he established his own business, now located at 79 Milk street. In spite of his years and ill health, from which he had suffered since late November, he continued to go to his office until three weeks ago, when his illness became more serious.

Mr. Hall had been a widower seven years. His wife was Lulu Elizabeth Rymes of Charlestown, Mass. Survivors include a son, John Dill Hall, and a daughter, Miss Mira Hall, both of Somerville; four grandchildren and two brothers, Irving Gilmore Hall, of Marshfield, Mass., and Walter Payson Hall, of North Weymouth, Mass. Mr. Hall was a member of the John Abbot Lodge of Masons in Somerville.

Ira L. Beebe, Jr.

Ira L. Beebe, Jr., aged 54 years, president of I. L. Beebe & Son, 132 Nassau street, Manhattan, paper pulp dealers, died Friday of last week after a long illness. He was the son of Brig. Gen. Ira L. Beebe of Jamestown, N. Y. Mr. Beebe was active in yachting circles and was formerly commodore of the Atlantic Yacht Club.

He is survived by his father, who is a veteran af the Civil War, his wife, Mrs. Mildred Gardner Garey Beebe, two step children, Lorraine and Jack Garey, and two sisters, Mrs. Cyrus Jones and Mrs. Walton Spring. Mr. Beebe was buried in Greenwood Cemetery.

Rates on Paper Bags from Rumford Unreasonable

WASHINGTON, D. C., June 10, 1930.—Reversing a former decision the Interstate Commerce Commission now finds the rates on paper bags from Rumford, Me., to New Jersey and Pennsylvania points to be unreasonable and awards reparation to the complaining Continental Paper and Bag Mills Corporation.

In the previous decision in the paper company's case against the Atlantic City Railroad Company, the I. C. C. found the assailed rate of 36.5 cents per 100 pounds on paper bags, both applicable and reasonable. In reconsidering the case, the rate is still considered applicable, but on specific shipments from Rumford, Me., to Newark, N. J., and Philadelphia and Harrisburg, Pa., it is held unreasonable.

The 36.5 cents rates was composed of a combination rate of 6 cents from Rumford to Brunswick, Me., and 30.5 cents beyond. The complainant sought the 28.5 cent rate applicable on "paper."

The Commission held that paper bags were not included under the "paper" commodity rate. However, in view of the fact that paper bags are rated the same as wrapping paper in three classification territories, although paper bags have a greater value and a lighter load weight, the Commission found a rate of 34 cents, rather than 36.5, to be reasonable.

Reparation equal to the difference between the 36.5 cents charged and the 34 cents that should have been charged, is to be awarded.

Get 10 Years for Burglarizing Paper Mill

INDIANAPOLIS, Ind., June 9, 1930.—Two men who were arrested recently while they were in the act of burglarizing the Lincoln Paper Mills at Elkhart, Ind., were sentenced to serve three to 10 years each when they entered pleas of guilty in court here. The arrests, police believe, will stop a series of burglaries at the paper mill that have been puzzling the department for several weeks.

News Print Prospects in Alaska

WASHINGTON, D. C., June 10, 1930.—Statement that the Territory of Alaska "is on the eve of a substantial start" in the news print industry is contained in a report on "Wood pulp supply, power sites, transportation and other matters entering into the possible projection of the news print industry into Alaska" just transmitted to the Senate by the Secretary of the Interior, Ray Lyman Wilbur, pursuant to Senate Resolution 212, directing such a report.

The statement, contained in a report prepared by the district forester of Alaska, said:

" With responsible parties now interested in Alaskan projects; with the Government offering timber and water power under conditions apparently equitable to all concerned, and with detailed surveys confirming the value of the Alaskan resources for large scale news print production, it is believed that the Territory is on the eve of a substantial start in this industry."

The governor of Alaska, George A. Parks, in a letter to the Secretary of the Interior, which accompanied the report, stated:

"Practically all of the coastal forests, and they are the only available sources of commercial pulp timber, are adjacent to tidewater. By far the greatest part of the forests are easily accessible from excellent deep-water harbors. Ocean-going vessels of almost any tonnage may be brought very close to the source of supply. This condition assures cheap transportation at all times, and it is one of the most important factors in the proposed development."

The report of the district forester said in part:

"Alaska has no paper mills at present. British Columbia, with timber and physical conditions which quite closely resemble those of southeastern Alaska, has two news print mills and a number of pulp mills. The more northerly of these news print plants is located at Ocean Falls, B. C., 296 miles south of Ketchikan, Alaska. The establishment of news print plants in Alaska will be merely an extension of the industry to a more distant section of the one general field represented by Oregon, Washington, British Columbia and southeastern Alaska, and will not involve adaptation to an entirely new set of conditions or to surmounting of difficulties not already known to West Coast operators.

"Conditions in southeastern Alaska are apparently favorable for the large-scale united operations that now characterize the manufacture of news print in the United States and Canada.

"Water power at a reasonable development cost is available to meet the power needs of the modern paper mill of 400 to 500 tons daily capacity."

The report continued: "Studies by the forest service indicate that the timberlands of southeastern Alaska under a proper system of silvicultural management can produce 1,500,000 cords of pulp wood annually in perpetuity. In other words this amount of timber can be cut yearly and be fully renewed through tree growth. Converted into news print this represents a production of 1,000,000 tons or about one-fourth of the present yearly consumption in the United States.

"Other favorable factors of southeastern Alaska for the news print manufacturing industry are a mild Winter climate, the accessibility of the timber to tidewater which permits of cheap logging, and the availability of water transportation for the raw material to the plants and for the finished product from the plants to the general markets."

Now Foster Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

UTICA, N. Y., June 9, 1930.—The Foster Box Board Company has filed a certificate with the Secretary of State showing a change in the corporate name to the Foster Paper Company. The capital stock has also been increased to $200,000 consisting of 30,000 shares of common without par value. Attorney Edward M. Brown represented the firm in the proceedings.

Stacking Pulpwood
with
600-ft. Jeffrey Hercules Chain Conveyor

Jeffrey Hercules Chain and below the S-Steel Attachment.

THREE hundred and fifty cords of pulpwood are put on the stack in a day with this double strand Jeffrey Hercules Chain Conveyor equipped with S-Steel Attachments. Its D-Shank full diameter pins and balanced construction have made this chain extremely popular with pulp mills.

For nearly twenty years Jeffrey Equipment for handling pulpwood, chips, pulp laps, lime, sulphur, coal, ashes, etc., has been the choice of this company. They know that whatever the job, Jeffrey Conveyors can be depended upon.

If you are interested in dependable handling equipment, we would like to send you a copy of our new Chains and Material Handling Catalog No. 416-B.

The Jeffrey Manufacturing Company
931-99 North Fourth St., Columbus, Ohio

New York	Philadelphia	Cleveland	Milwaukee	Charleston, W. Va.
Buffalo	Pittsburgh	Cincinnati	St. Louis	Birmingham
Utica	Scranton, Pa.	Chicago	Denver	Houston
Rochester, N. Y.	Boston	Detroit	Salt Lake City	Montreal

Jeffrey Manufacturing Co., Ltd., of Canada. Head Office & Works—Montreal. Branch Office—Toronto

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MATERIAL HANDLING EQUIPMENT

Jeffrey products For Pulp and Paper Mills
- Chains and Attachments
- Sprocket Wheels—Gears
- Elevators
- Conveyors
- Portable Loaders
- Coal and Ashes Handling Equipment
- Skip Hoists
- Crushers—Pulverizers
- Locomotives
- Ventilation Fans

New York Trade Jottings

Charles Hayden, of Hayden, Stone & Co., New York, has been elected a director of Certain-teed Products Corporation to fill a vacancy.

* * *

Paul A. Schoellkopf, president of the Niagara-Hudson Power Company, returned last week aboard the French liner *Ile de France*, after a brief trip abroad.

* * *

The Milton Paper Company, of 119-125 West 24th street, New York, has acquired 25,000 square feet of space in addition to the 11,500 square feet occupied before in the same building.

* * *

St. Regis Paper Company, New York, has declared the regular quarterly dividend of 25 cents on the common and $1.75 on the preferred stock, both payable July 1 to stock of record June 10.

* * *

J. Francis Strub, formerly connected with Parsons & Whittemore, Inc., for many years, and his assistant, Frank Jepson, are now with the Jay Madden Corporation, of 100 East 42nd street, New York.

* * *

Secretary D. A. Crocker announces that the New York Division of the Salesmen's Association of the Paper Industry will hold its first golf outing of the season at the Leewood Golf Club in Westchester County on Friday, June 20.

* * *

The Stephens-Adamson Manufacturing Company, manufacturers of conveying transmission and screening machinery, of Aurora, Ill., announce the removal of their New York sales and engineering office to 50 Church street, Room 1360.

* * *

The Car De Van Paper Company, of Queens, has been incorporated under the laws of the State of New York with a capital stock of $50,000. The attorney was B. J. Ferguson, of Woodside, N. Y.

* * *

Knowlton Bros., owners of the Kamargo Mills, Watertown, N. Y., announce the opening of New York offices in the new Chrysler Building, where as Eastern representative R. W. McCormick will make his headquarters. The telephone number is 7526 Murray Hill.

* * *

Jay Madden has announced his resignation as vice-president and director of Parsons & Whittemore, Inc., and the formation of the Jay Madden Corporation, which is located in suite 924 of the Pershing Square Building, 100 East 42nd street, New York, telephone Ashland 7788. During his long connection with the paper industry Mr. Madden has specialized in the sale of news print and the export sale of paper and pulp. Mr. Madden is familiar with conditions in the various world's markets through many and frequent trips abroad.

Paper Industry Holds Up Well

News print demand for April was equal to that a year ago, according to Julius H. Barnes, chairman of the National Business Survey Conference which has just completed another business survey.

"Book paper production was at a fairly high rate," he continues. "Paper board operations in April were below last year. Writing paper operations continue at a high rate. Wrapping paper production was slightly lower than last year. Kraft paper conditions were unsettled. Paper and pulp industry as a whole was apparently only slightly below 1929. Payroll indices were fairly maintained in April as against March, and as against April, 1929."

Purified Wood Fibers

As a further step in the investigation of purified wood fibers, a number of tub-sized papers were prepared in the Bureau of Standards paper mill, and these papers are now being subjected to the various permanence tests. Three basic papers of purified wood fibers were tub-sized. These were: (1) a waterleaf paper, (2) a paper sized with ½ per cent rosin, (3) a paper sized with 1 per cent rosin. Each of these basic papers was tub-sized with the following: (1) glue, (2) glue and alum, (3) starch, (4) starch and alum.

The testing is under way on all these papers, but sufficient data are not yet available to draw many conclusions. The basic papers and most of the glue-sized papers have been subjected to the 72-hour heat test. The stability of the papers, as indicated by the retention of their physical strength properties after heating, is very high.

The retention of glue, in the case of papers tub-sized with glue, has not been determined as yet, but the sizing has resulted in all cases in the expected increases in folding endurance, bursting strength, and tensile strength. It is interesting to note that the base paper sized with only ½ per cent rosin, appeared to be sufficiently well sized. The possibility of using such a small amount of rosin for the effective sizing of papers from this type of fiber is of importance from the standpoint of relative permanence.

In the case of starch-sized papers, the amount of starch retained was found to be in proportion to the absorbency of the basic paper. Thus the waterleaf sheet retained the most—about 2 per cent, the paper sized with ½ per cent rosin retained about 1 per cent starch, while the paper sized with 1 per cent rosin retained about ¾ per cent starch. Tub-sizing with starch also resulted in the expected increases in strength.

Cambridge Surface Pyrometers

Cambridge Surface Pyrometers are comprehensively described in an illustrated booklet just published by the Cambridge Instrument Company, pioneer manufacturers of precision instruments, of the Grand Central Terminal, New York. By successive improvements in the construction of the thermo-electric pyrometer, the Cambridge Instrument Company has perfected a series of simple, accurate instruments for quickly and easily measuring the temperature of stationery and moving services.

In the paper industry steam is an important item in the cost of production. With the Extension Surface Pyrometer overheated or water-logged dryer rolls may be quickly located. The temperature of the various dryer rolls can be regulated to provide progressive drying, now accepted as the proper procedure for obtaining uniform product and efficient operation.

A copy of this interesting and instructive booklet may be obtained upon application.

Norwegian Pulp Industry Depressed

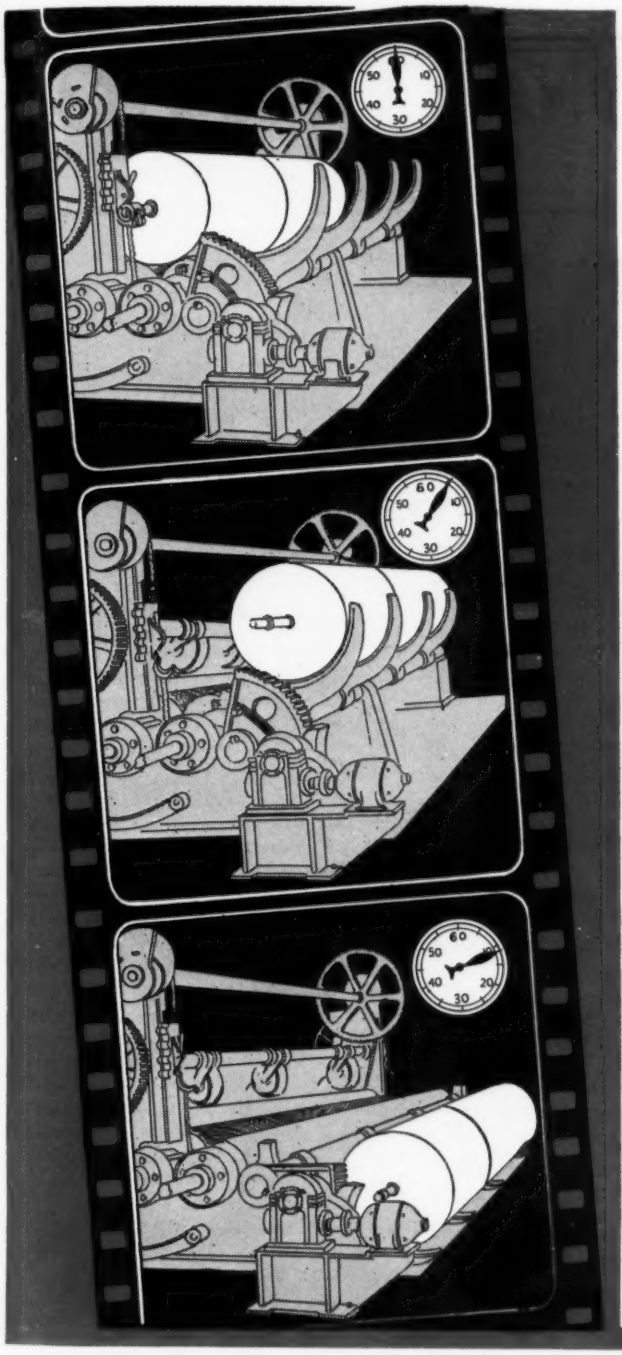
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—The Norwegian wood pulp industry continues to suffer from the depression in the world's paper markets. With the possible exception of best grade bleached sulphite, which is in demand by the rayon manufacturers, the market for both chemical and mechanical pulp continues slow and unsatisfactory, with prices showing a tendency to fall off.

Holyoke Annual Shutdown Aug. 1

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 10, 1930.—Notices were sent out yesterday by the Holyoke Water Power Company of the annual shut-down or drawing of water from the canals so that mill owners can make the needed hydraulic or other repairs. The water will begin to be drawn off at 6 A. M. August 1 and the canals will be full again August 4.



12 SECONDS

from Winder to Floor

"untouched by human hands"

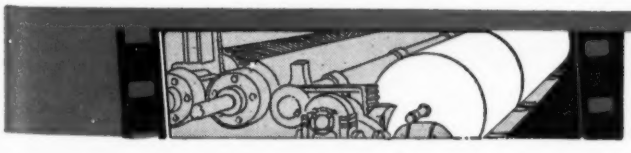
Finger tip pressure on a button removes completed rolls from the Bagley & Sewall High Speed Winder. As easy as that! The automatic Roll Handling Device cradles the roll, lifts it from the drums, and deposits it—*gently*—on floor or truck, without the slightest jar or jostle. No wrestling nor straining, no overhead tackle, effort, damage nor risk.

The *efficient* way to handle rolls—a feature of a supremely efficient Winder. And, speaking of efficiency, consider the patent drum spacing adjustment that assures uniformly tight rolls, the compensating counter balance and true dynamic balance, the vibration-free, high speed performance that delivers perfect rolls up to 3,000 feet a minute.

The slightest annoyance from your present winders, a single rejected roll or sprung shaft, are ample justification for a full investigation of the possibilities of this modern way of winding and handling rolls. We'll be glad to give you the full story—write us.

The Bagley & Sewall Co.

Watertown, N.Y.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Baltimore, Md.—The Hinde & Dauch Paper Company, Sandusky, Ohio, manufacturer of corrugated boxes and containers, has plans maturing for proposed new plant on tract of land recently acquired on Bittle street, near Loneys Lane, Baltimore, to consist of a main one-story unit, 240x480 feet, reported to cost over $300,000, with equipment. It is understood that bids will be asked on general contract immediately. The plant will be given over to the production of shipping containers. Otto Randolph, Inc., 53 West Jackson boulevard, Chicago, Ill., is architect and engineer. Sidney Frohman is president.

Evansville, Ind.—The Atlas Box Company, 932 East Pennsylvania street, has awarded a general contract to Jacob Schmitt, 1670 Bayard Park drive, Evansville, for proposed new addition to plant for increased capacity, consisting of two-story unit, 52x65 feet, estimated to cost about $25,000, with equipment. Alfred E. Neucks, Old National Bank Building, Evansville, is architect.

Louisville, Ky.—The Acme Paper Storage Company, 141 North Second street, is planning rebuilding of portion of storage and distributing plant recently damaged by fire with loss reported at close to $25,000, including building and stock.

Albany, N. Y.—American Papeterie Company, Inc., care of Howard S. Sanders, 1515 Broadway, New York, recently organized by Albany interests to manufacture special paper goods, is said to be planning early operation of local plant. The company is capitalized at 100 shares of stock, no par value. Local representatives are Whalen, Murphy, McNamee & Creble, Albany, attorneys.

Newark, Del.—The Continental-Diamond Fibre Company, Newark, has closed negotiations for the purchase of three other companies in affiliated lines of production, including the Irvington Varnish & Insulator Company, Irvington, N. J., manufacturer of flexible varnished electrical insulation products, the Fibrock Insulation Company, Valparaiso, Ind., manufacturer of special composition sheets, tubes, etc.; and the Chicago Mica Company, Chicago, Ill., with plant likewise at Valparaiso, manufacturer of mica sheeting materials. The acquired companies will be continued in operation as units of the purchasing organization, and it is understood that present plants will be maintained as heretofore. Acquiring company, it is understood, proposes general expansion program for increased manufacture.

Fargo, Ga.—Through an error it was reported in the April 17 issue of the PAPER TRADE JOURNAL that plans were under consideration for the construction of a paper mill at Fargo, Ga., on the property of the Superior Pine Products Company and that the latter organization was interested in the project. The Paper Makers Chemical Corporation states that its subsidiary, the Superior Pine Products Company have no intention of building or becoming in any way interested in a paper mill.

Whippany, N. J.—The United Paperboard Company, 171 Madison avenue, New York, has closed down its Hanover Mill, at Whippany, N. J., for an indefinite period, estimated from six weeks to two months. Usually at this time of year the plant is running on a capacity schedule for the manufacture of corrugated card board packing cases primarily for the canning industry, and it is said that reduced orders from that source make the curtailment necessary. The plant has been giving employment to about 70 men. The company is also reducing activities at some of its other mills in the United States, as well as Canada, for similar reason.

St. Paul, Minn.—Fire, recently damaged a portion of the plant of the Waldorf Paper Products Company. An official estimate of loss has not been announced. The damage will be replaced.

Everett, Wash.—The Puget Sound Pulp and Timber Company has active work in progress on its new pulp mill at Everett, and has been placing contracts for considerable equipment for installation. The plant will consist of several buildings, with ultimate cost placed at close to $4,000,000, with machinery. It is understood that intial unit will be ready for service in the near future.

Fredericksburg, Va.—The Sylvania Industrial Corporation, 122 East 42nd street, New York, manufacturer of special transparent wrapping paper, has placed the first unit of its new local plant in operation and it is understood will develop capacity production at early date. Work is being pushed on additional plant units, which will be placed in service immediately on completion. The entire project is said to represent an investment of close to $1,000,000. General contract has been handled by the Hughes Foulkrod Company, Schaff Building, Philadelphia, Pa. Plans were drawn by the Ballinger Company, Twelfth and Chestnut streets, Philadelphia.

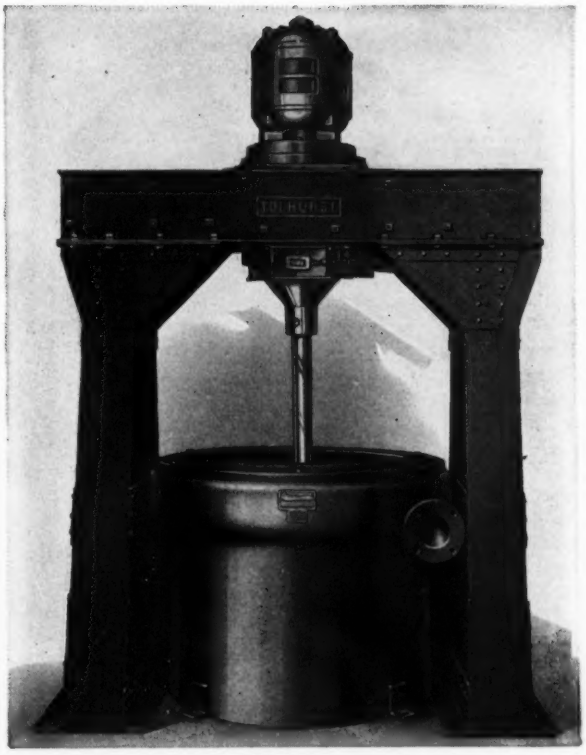
Griffith Ind.—The Mapes Consolidated Manufacturing Company, Griffith, manufacturer of cushion egg case materials from paper pulp, is running on a capacity schedule at local plant and is developing two new commercial products from molded paper pulp materials. It is proposed to market these at an early date and to give over a considerable portion of plant facility to production. The company operates a branch plant at Kansas City, Mo., which likewise, is said to be operating on normal basis.

Fargo, N. D.—The Fargo Paper Company, Fargo, has begun the construction of a new two-story plant unit for storage and distributing service, reported to cost about $50,000, with equipment and for which general contract will be carried out by the Walgren Construction Company, 920 First avenue, North. William F. Kurke, 54 Broadway, Fargo, is architect.

Caruthersville, Mo.—The Dillman Egg Case Company, manufacturer of corrugated card board products for egg and food service, is said to be planning the early rebuilding of portion of box manufacturing plant, recently destroyed by fire with loss reported at close to $50,000, including equipment.

Watertown, N. Y.—In order to provide additional production facilities for paper for directories, catalogs, etc., particularly large editions, the St. Regis Paper Company is said to be curtailing the production of news print to release facilities for the other branch of manufacture noted. The affiliated mill of the company at Oswego, operated in the name of the Oswego Board Corporation, manufacturer of insulating board, is running on close to

The finest salesman in the world can't talk the specks out of paper



DESIGNED AND BUILT BY CENTRIFUGAL SPECIALISTS

Tolhurst Paper Centrifugals are manufactured under license from the Centrifugal Engineering & Patents Corp., owners of the Erkenator patents.

Paper that has passed through Tolhurst Centrifugals does its own spell-binding. It is clean. When buyers hold it to the light, they say: "A nice clean sheet; you're asking a fancy price, I suppose."

And there you have them. With Tolhurst Centrifugals you can offer buyers the cleanest paper they have ever seen—at the same old price. And your net will be actually greater. Tolhurst Centrifugals increase profit margin by reducing rejects—in many cases by as much as one-half.

Let us give you the whole story on Tolhurst Centrifugals. Send the coupon, or write. Tolhurst Centrifugals are at work in twenty mills. Their records will interest you.

TOLHURST
REGISTERED U.S. PAT. OFF.
Centrifugals

New York Office: 30 Church St. *Chicago Office: 8 So. Dearborn St.*

TOLHURST MACHINE WORKS, INC., 653 E. Fulton Street, Troy, N. Y.
Gentlemen:— Please send me your latest Tolhurst Centrifugal Bulletin, printed on Centrifugally treated stock.

Name..... Position.....

Mill..... Address.....

4042

normal production schedule and business at the present time is said to show considerable improvement over that of the earlier months of the year.

Tacoma, Wash.—In connection with the occupancy of the local mill of the Union Bag and Paper Corporation by the Pacific Pulp Mill Corporation, new equipment will be installed for kraft pulp producton, including a new type of fiber barking drum as manufactured by the Willamette Iron and Steel Works, Portland, Ore. Two such drums will be provided, with auxiliary operating equipment. The acquiring company was recently organized as a subsidiary of the St. Regis Paper Company, Watertown, N. Y.

London, Ont.—The Jones Box and Label Company, Dundas street, East, has filed plans for the construction of a new addition to local plant, consisting of a four-story unit, reported to cost more than $75,000, with equipment. Increased capacity will be developed. General contract for the expansion has been let to the Fleet Construction Company, Toronto, Ont.

Campbellton, N. B.—The Restigouche Company, a subsidiary of the Fraser Companies, Ltd., Montreal, Que., is operating its recently completed bleach sulphite pulp mill on regular production schedule, and will hold to this operation for an indefinite period. The plant is understood to be developing a rating of over 40,000 tons a year.

Seward, Alaska—D. C. Brownell and L. B. Ray, Seward, associated, have secured permission from the Federal Power Commission, Washington, D. C., to construct and operate a hydro-electric power plant on Lost Creek in the Chugach National Forest, Alaska. The initial plant will be equipped for an output of about 2440 horsepower, and it is understood will be used primarily for paper and pulp mill service in that vicinity. The project will include a transmission line. It is understood that company will be formed to carry out the enterprise.

New Companies, Etc.

New York, N. Y.—The Gelrose Paper Products, Inc., has been incorporated with a capital of $40,000, to manufacture and deal in paper containers of various kinds. The incorporators are Michael B. Elin, F. N. Golwich, Radine Rosen, 271 Canal street, New York. The company is represented by George C. Reiss, 11 Park Place, New York, attorney.

Chicago, Ill.—The Morris Paper Mills Company, 33 North LaSalle street, manufacturer of paper boxes and containers, has filed notice of decrease in capital stock from $1,000,000 to $666,700, with 10,000 shares of common stock, no par value, remaining as heretofore.

Chicago, Ill.—The Commercial Bag and Paper Company, 1622 South Harding avenue, has been incorporated with a capital of $25,000, to manufacture and deal in paper products, including paper bags and containers. The principal incorporator is Benjamin B. Silver.

Seattle, Wash.—The Pacific Asbestos and Supply Company has been incorporated with capital of $10,000, to deal in insulating board products of various kinds. The principal incorporators are Boyd French and C. M. Hoopes. The company is represented by Bogle, Bogle & Gates, Central Building, Seattle, attorneys.

Buffalo Forge Develops New Heater

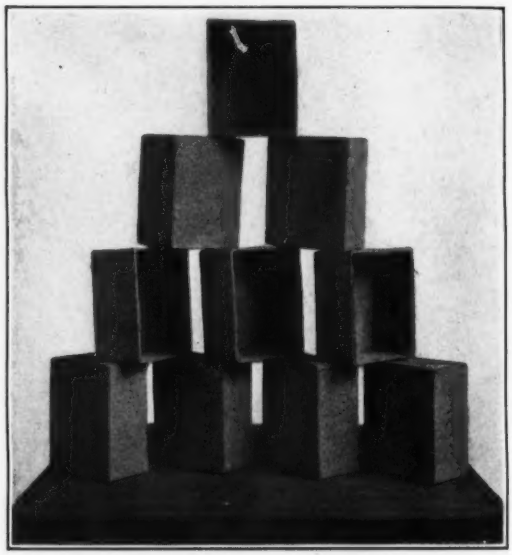
The new 16 inch Twin Breezo-Fin Unit Heater recently developed by the Buffalo Forge Company, engineers and manufacturers, of Buffalo, N. Y., has several features which commend it highly to the user. It has the lowest b.t.u. cost of the entire Buffalo line of unit heaters and is quieter than single fan heaters of equivalent capacity. When desired, one of the 16 inch fans may be shut down, thus lowering the steam consumption and reducing the temperature. Twin Breezo-Fin has Aeroplane Heating Coil, the original, light-weight, non-corrosive, high efficiency coil, tried and proven satisfactory through years of usage. Only one set of steam and drip connections is necessary on Twin Heaters.

Seamless Boxes From Waste Material

The Vegetative Waste Pulp Box Company, 420 17th street, Oakland, Cal., has for sometime past been developing a machine for making boxes in one operation out of waste material. The accompanying illustration represents some of the company's boxes made from waste products. The material used was reclaimed newspapers without any vegetative waste. The company wished to demonstrate the feasibility of its undertaking and so took the easiest material with which to work.

The boxes are 9 x 8 x 6 in size, of fairly clean surface for the first attempt and of a thickness which betokens strength and durability. The outside corners are of a clean cut angle, while the inside is reinforced, the cone having been reduced to a curve so as to push the pulp into the seam, thereby giving greater strength and resistance against breakage. This box was designed without a cover, but a cover can be provided for very easily.

The company's one effort has been to produce the box. The



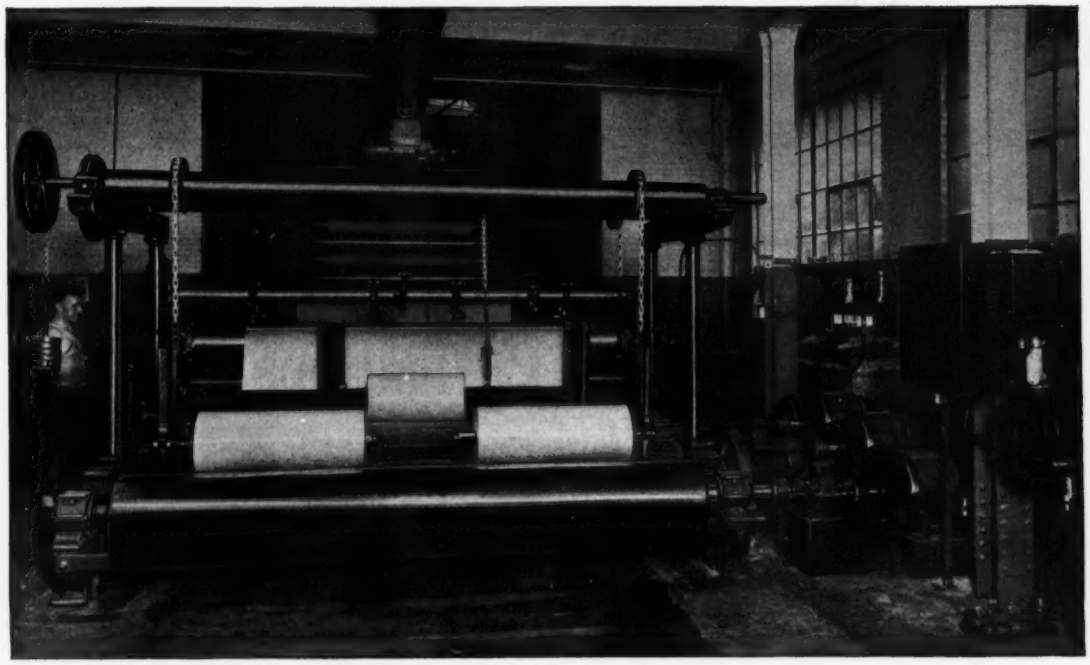
Boxes Made from Reclaimed Newspapers

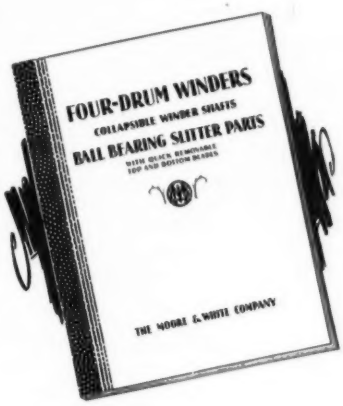
machine on which these boxes were made is operated by hand, while the permanent machine will be operated by electrical power. On this machine the boxes can be made with the cover attached just as in the usual containers. The company has developed its box so as to withstand weather and hard knocks. It has developed its product by a treatment so as to be able to put water in it and place it on a plate on a gas stove and bring the water to a boiling point without showing the least signs of collapse or effect from the head. A sample was submitted to the Oakland Fire Prevention Bureau for test and it pronounced it absolutely fire proof. The company has applied for patents.

Chicago Paper Salesmen's Activities

CHICAGO, Ill., June 9, 1930.—The second of the summer's golf outings enjoyed by the Chicago Division of the Salesmen's Association of the Paper Industry is to be held on June 19 at the well known Westmoreland Country Club according to information sent out today by Frank Prentiss, of Hollingsworth & Whitney, chairman of the golf committee. Warren Moore, of the Brown Company, a Westmoreland member, assures the members of one grand and glorious outing on the eventful day.

Word also comes from the association that all regular weekly Monday meetings were suspended with on May 26 and will not be resumed again until the Monday following Labor Day. Vacations, the monthly golf outings, and general inactivity in the summer were given as reasons for their discontinuance.



M & W electrically-driven Four-Drum Winder and Slitter in mill of Standard Paper Mfg. Co., Richmond, Va.

YES, we still build belt-driven Winders — and good ones! But we consider the Electric Drive a long step forward.

A Winder that "Runs Itself"

THE hardness of a drum-wound roll depends on the drive.

With any form of drive, the second or "variable" drum must exert a frictional pull to draw the paper tight. With the older forms of drive, this pull is accomplished by an actual slip, which must be carefully regulated as the rolls grow larger, to prevent undue hardness.

In the electrically-driven M & W Four-Drum Winder, the necessary pull is obtained by motor torque, without the creation of excessive slip. As the rolls grow larger, the "variable" motor adjusts its speed to the increasing weight, while still maintaining the frictional pull. And surface hardness is automatically reduced to just the slight degree needed to make a perfect roll.

The new M & W booklet on Four-Drum Winders describes this electric drive fully. Shall we send you a copy?

THE MOORE & WHITE COMPANY
Established 1885
15th ST. & LEHIGH AVE. PHILADELPHIA, PA.

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

Refractory Protections[1]

Boiler Setting Maintenance

While chemical pulp mills have their own individual refractory problems; in connection with sulphite digesters, rotary incinerators in soda processes and with both incinerators and smelters in sulphate process mills; these may be said to be now pretty well in hand. High class refractories, well suitable for such services, are readily available and the mills' extensive experience in pulp production should be the safest and surest guide to a wise and economical selection of materials for digester, incinerator and smelter linings, etc. When it comes to suitable refractory protections in the power plants of pulp and paper mills, however, conditions are far more troublesome, for the reason that changes and developments in steam generating practices have been much more pronounced than customary modifications in methods of pulp preparation.

Much higher furnace temperatures are common nowadays and boilers quite generally driven at elevated ratings and operated under conditions which are far more injurious to boiler settings and furnace linings. Not only is a question of providing a refractory which will withstand these higher temperatures, but of using materials and arrangements which will overcome so far as possible the increasing troubles of clinker adhesion, erosion, slagging and spalling. These are not new complications, but rather intensified difficulties, for the adhesion of clinkers to the side and bridge walls in boiler settings is nothing novel, being, on the contrary, one of the earliest and basic of refractory problems. With the advent of forced draft firing, clinker adhesion has simply become much more serious and with the high temperatures of modern boiler setting operation the fluxing and eroding influences of the slag formed from the fuel ash have greatly increased. With intensified severity of operating conditions, moreover, the spalling of brick work has become more common.

The troubles are chemical and physical, as well as to some extent mechanical, and can be overcome to any considerable extent only by exercising adequate precautions to prevent the development of critical conditions in respect to thermal balances, as well as by the use of refractories best suited to withstand the conditions developed. A great deal depends, of course, upon employing a suitable refractory, and there are quality refractories obtainable which when suitably protected and properly applied are well capable of withstanding the most intense temperatures developed in boiler furnace operation, but of even greater potency is the control and regulation of the conditions under which the high furnace temperatures of modern boiler furnaces are developed and maintained.

For clinkers to adhere tightly to the furnace walls, both the clinker and refractory wall have to attain a common, and relatively moderate, temperature at which they soften and literally weld together. An eutectic balance is created under which conditions the clinker and wall material melt and weld to one another at a considerably lower temperature than would be required to melt down the refractory wall alone. Tight clinker adhesion occurs only under such conditions, so if a temperature differential can be maintained between the clinker and wall, the costly and troublesome adhesion of clinkers is avoided even at considerably more intense heats.

As the clinker, being formed in the fire zone of the furnace, attains a temperature well above that which can be developed in the furnace walls, the avoidance of clinker adhesion can be effected by keeping the surface temperature of the furnace walls, baffles, etc., below that of the clinker when it comes in contact with the refractory furnace linings. It is the function of air cooling furnace walls and water walls to effect just such surface temperature control, two of the most potent methods of refractory protection. No great temperature differential has to be maintained, simply a difference sufficient to guard against the creation of the eutectic balance at which clinker adhesion is intensified.

Building-up the thickness of the refractory linings or resort to heavy, solid masonry constructions, backings, etc., will not usually attain the same end. In fact, the backing-up of even the highest quality of heat resisting refractory linings with solid fireclay brick construction will often cause the refractory to disintegrate rapidly. In such cases, control of the surface temperature by the withdrawal of heat, as with air cooling and water wall constructions, is frustrated, the heat simply being retained in the walls and the critical eutectic temperature balance quickly and unavoidably created.

Of course, the heat resisting capacity of the refractory is an instrumental factor, placing no inconsiderable weight upon the proper selection of refractory, from the viewpoint of heat resistance, but this alone will scarcely suffice. The range between a good quality fireclay brick and the highest temperature refractory block is a matter of only a comparatively few hundred degrees Fahrenheit. The plastic point of a good clay firebrick, for instance, should be in excess of 2,400 degrees, while that of the highest temperature refractory block attainable and serviceable is probably not much more than 1,000 degrees higher.

The control of surface temperatures is also an extremely potent consideration in minimizing the fluxing and eroding influences of the slag formed from the fuel ash, a form of refractory deterioration greatly intensified, naturally, if the refractory is of acid quality and the slag of alkaline characteristics. For example, the chemical combination between a very acid, flint clay refractory and the slag from wood ash, which is a strong alkali, which nor-

[1] For other discussions on refractories, see PAPER TRADE JOUR., Oct. 4, 1928, and April 25, 1929.

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mally would take place at a eutectic point of from 1,600 to 1,900 degrees Fahrenheit, has by proper air cooling of the refractory been effectively resisted at temperatures running close up to 3,000 degrees. By the avoidance of the critical eutectic balance, a considerably greater gain was effected than if the best grade of high temperature refractory obtainable had been substituted for the flint clay furnace lining.

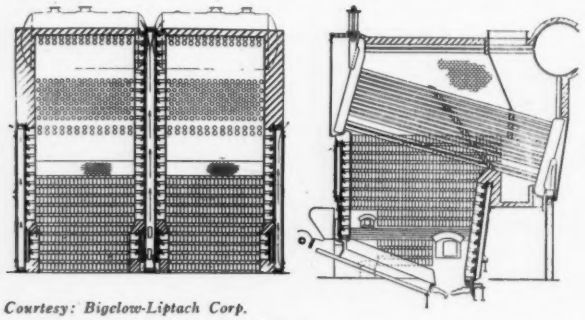
Air Cooled Furnace Walls

The recognition of the high value of cooling the walls of boiler furnaces, as an effective means of protecting boiler plant refractories, has led to the design and development of a number of meritorious and highly economical varieties of air cooled wall constructions. No attempt need be made to describe these systems in detail, for the various constructions are more or less similar in that they consist of a well fitting refractory tile shell built in the combustion chamber of the furnace, with an air space between such inner shell and the outer brickwork of the boiler. The tiles or refractory brick, if such are used, are anchored to supporting structures or tied to the outer walls so as to insure a firm, somewhat flexible construction and minimize compression stresses on the lower tiers of tile, or brick. Other constructional refinements are incorporated in certain cases, but chief interest lies in how such air-cooled linings have withstood severe daily operating conditions.

The economies effected by such wall constructions are perhaps most strikingly demonstrated by the very marked lack of repairs needed, as exemplified by negligible demands for spare, or repair, refractories, tiles or brick. One of the leading manufacturers of furnace arches and wall construction tiles reports that while during the past five years he has installed about 250,000 square feet of air cooled furnace walls, his total sales of spare refractories for such volume of business have averaged somewhat less than one cent per square foot of wall constructed. A large proportion of this very nominal spare parts business, moreover, is represented by sales made for stocks of spare parts which are still lying in the purchasers' store rooms, awaiting an emergency.

Air cooled walls of this construction were installed in two 350-horsepower, water-tube boilers at the plant of the Harrisville Paper Corporation, Harrisville, N. Y., in 1927, at a time when the firing method employed was changed from stoker firing to a pulverized fuel system. The change from stoker to pulverized fuel firing tended to aggravate furnace conditions so far as refractory deterioration is concerned, so while conditions before and after the installation of the air cooled walls and re-design of the boiler settings are not exactly comparable it is interesting to note that in the three years which have elapsed since the remodeled boilers went into operation no orders for any repair refractory parts have been placed.

At the Appleton, Wis., plant of the Fox River Paper Company, where two 506-horsepower, cross-drum, water-tube boilers, fired by underfeed stokers, are provided with modern air cooled furnace wall protection, much the same carefree refractory service has been experienced. In service for some two years, no orders for repair refractories have been necessary. A sectional view of this boiler battery is shown and it will be noted that while the center air cooled wall, separating the two boiler units, is carried to the top of the boiler setting it was not deemed necessary to furnish air cooled wall protection for the side walls above the bottom of the tube bank.



Courtesy: Bigelow-Liptach Corp.

FIG. 1.
Air cooled wall construction of 506 h.p., cross-drum, water-tube boilers at the Fox River Paper Co.

In this installation, a natural draft air circulation was provided for all walls and the heated air permitted to pass directly to the boiler room atmosphere. With this special variety of air cooled wall construction, the heated circulating air normally attains a temperature which does not exceed 150 or 175 degrees, though occasionally the center wall air may become heated to as high as 200 or 220 degrees.

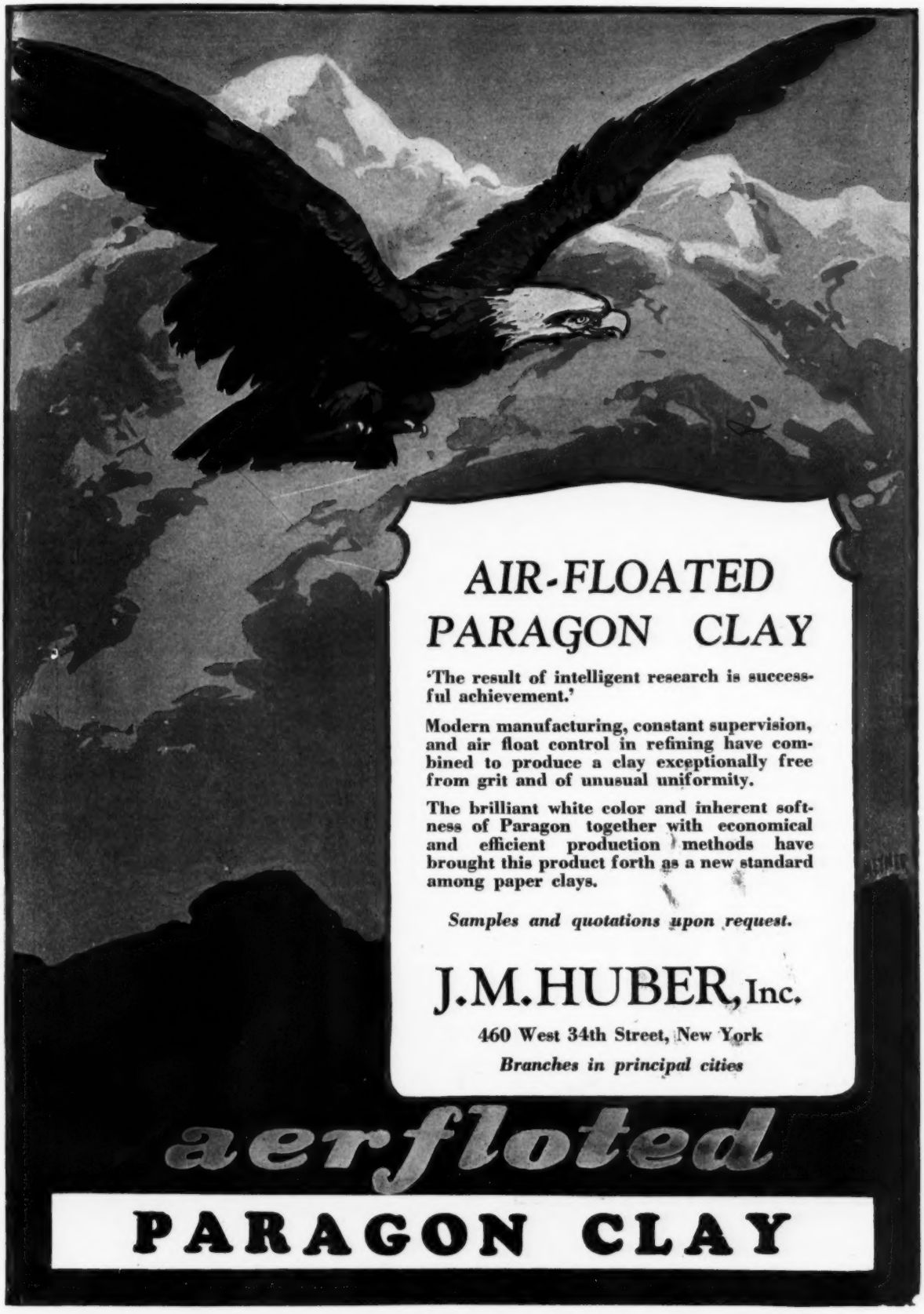
In other varieties of approved air cooled wall constructions, under severe firing conditions, the temperature of the cooling air may attain considerably higher temperatures and frequently such heated air is made use of to decided advantage. As pointed out in previous discussions on boiler furnace refractories, the advantages to be derived from the air cooling of furnace walls are three-fold: first, there is the protection afforded the refractories; second, the elimination to a considerable extent of clinker troubles and the minimizing of fluxing and eroding influences of fuel ash slag; and third, the provision of a very economical supply of preheated air which can be put to useful purposes.

In pulverized fuel burning furnaces, for example, the air cooled walls may be called upon to supply preheated air for drying the coal, for flame control and as secondary air for promoting combustion. Air heated to 400 or 500 degrees Fahrenheit in air cooled walls can be introduced into the furnace directly through air spaces in the furnace walls, a scheme which is also applicable for the stimulation of combustion in furnaces fired on oil or gas. In modern stoker firing practice, as well, a supply of preheated air can be utilized to stimulate combustion and serves to improve furnace efficiency.

These very desirable advantages of approved air cooled furnace wall constructions are realized, obviously, not so much from the refractive characteristics of the tiles and bricks employed, so-called refractories, as from the thermal conductivity of the inner shell walls. Of course, the materials employed must possess high resistance to heat, a plastic point well above 3,000 degrees Fahrenheit being desirable, but so-called high temperature refractories are distinguished by the possession of much higher coefficients of thermal conduction than fireclays, for instance. For illustration, a high quality silicon-carbide refractory at a temperature of 1,800 degrees Fahrenheit has a thermal conductivity of some 50 B.t.u. per hour per square foot, per inch thickness, per degree Fahrenheit temperature difference. The comparable thermal conductivity of a high grade magnesite brick, another of the quality high temperature refractories, at the same temperature is 25 B.t.u. per hour. In the case of a silica brick, the conductivity is about 12.8 and of a high grade fireclay brick, 9.6 B.t.u. per hour at a temperature of 1,800 degrees. At lower temperatures, the differences in heat conductivity of these classes of refractories is considerably more marked and under no temperature conditions encountered in boiler furnaces is it much less.

Water Walls

In approved water wall constructions, such as that featured in these columns April 25, 1929, the protection afforded the boiler settings and furnace lining, while also dependent upon surface temperature control by the withdrawal of heat from the wall surfaces, is effected by the refractive characteristics of the materials backing the water tubes, *i.e.*, of the refractory, and not by the thermal conductivity of the refractory. In the installation described last spring, the bare tube type construction was employed and while this is not the only approved form of water wall, walls so constructed have proved so eminently satisfactory that the variety may well be taken as representative and the conditions encountered as typical of those contended with in water wall practices in general.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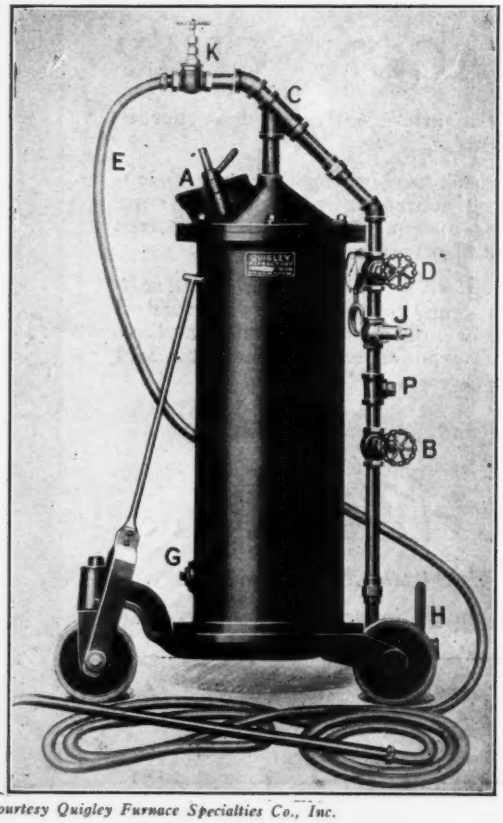
The justification of the economical bare tube water wall, it might be mentioned, lies in the fact that the bare tubes in the side walls, forming the water wall protection, are not subject to anywhere as hard service as the first row of boiler tubes, being called upon to conduct radiant heat only, while the first row of boiler tubes is subjected to convection as well as radiant heat. These bare cooling tubes are partly embedded in a backing of refractory material, which also fills the spaces between the tubes and forms a considerable thickness of the wall protection behind the water cooling tubes. The effectiveness of the construction is marked, for with a flame temperature in the firebox of from 2,800 to 2,940 degrees Fahrenheit in one case, the surface temperature of the refractory, between adjacent water tubes, was 2,445 degrees and only ¼ inch below the surface of the refractory it was 2,100 degrees. This sharp surface temperature gradient drop effected excellent refractory protection, for after the walls had been in continuous service for some six months they showed absolutely no signs of deterioration.

The point it is desired to make in connection with such water wall method of refractory protection is, however, that it is not the thermal conductivity of the refractory which affords the protection, as in the case of air cooled walls, but its property of refraction, since the refractory backing serves to reflect the heat to the tube surface. In other words, the physical characteristic of the refractory made use of in the two methods of surface temperature control by air and water cooling of furnace walls is distinctly different, in one case depending upon thermal conduction and in the other upon thermal refraction. Of course, if the water cooling tubes are shielded from the furnace heat by a coating of refractory, this protection shell should possess marked heat conduction capacity. In any case, however, the thermal conductivity of the refractory backing the water wall construction is not active in affording refractory protection and it is even quite customary to interpose an effective insulation between the refractory backing the cooling water tubes and the outer shell of the boiler setting. Such arrangement conserves heat, it is true, but it also nullifies the heat conductivity capacity of the refractory backing the cooling water tubes.



Courtesy Quigley Furnace Specialties Co., Inc.

FIG. 2.

Pneumatic Refractory Gun.. A—Filling door, B—Valve for piston pressure, C—Y connection to delivery line, D—Valve for air control, E—Hose to nozzle, G—Clean-out plug, H—Pressure relief cock, J—Pop safety valve and gauge, P—Connection for pressure line.

Brick Laying and Bonding

Refractory protections by virtue of the thermal conduction and thermal refraction properties of the refractories have also to be reckoned with in the more usual solid brickwork, furnace lining constructions. The highest temperature brick, those which possess the greatest coefficient of thermal conduction, should be laid next to the furnace and backed with brick of somewhat lower thermal conductivity and proportionally greater refractive qualities. The outermost brick, usually of fireclay composition and frequently of second grade quality, are, or should be, distinguished by the most pronounced properties of thermal refraction and lowest thermal conduction. With such construction, an effective and desirable temperature gradient through the furnace walls is secured, the drop in temperature being in more or less pronounced steps and progressive as the heat percolates through the successive walls of brick.

It is the thermal conductivity of the respective brick shells, therefore, rather than their individual capacities for thermal refraction which affords refractory protection to the successive thicknesses of refractories with different thermal properties. In effect, the surface, or near surface, temperatures between adjacent walls of brick are subjected to an automatic control which prevents, a proper selection of brick having been made, the creation of the eutectic balance which aggravates brick deterioration.

As the furnace walls are progressively built-up, so far as the heat conductivity of the various brick shells is concerned, it is quite feasible to add layers of a refractory possessing higher heat conduction capacity as a lining, or facing, to an existing boiler furnace and thereby permit the furnace temperature to be commensurately increased and the economical steaming capacity of the boiler somewhat elevated without endangering the brickwork. Such opportunity, obviously, explains why and how such marked improvements and economies in boiler operation can frequently be secured by the simple expedient of lining the interior of a furnace with a coating of high temperature cement. An explanation is afforded also for the greater trouble customarily experienced with baffles, bridge walls and other brickwork subjected to high temperatures on both sides, for under such circumstances no effective temperature gradient through the masonry can be secured, making the desirable characteristics of the refractory those of heat conduction and heat capacity. That is to say, for such constructions only refractories of the higher class and more marked heat conductivity should be employed. Also, monolithic construction is, as a rule, preferable to built-up structures, in order to avoid the weak spots of joints.

The difficulties introduced by joints have also to be reckoned with in refractory brick laying and bonding. Accurately proportioned and well fitting brick and refractory forms of any and all qualities are virtually essential if adequate refractory protections are to be realized. All brickwork and other masonry should be laid close, *i. e.,* with joints as thin as possible, and the bonding mortar or cement should have, advisably, not only good bonding properties, but somewhat higher thermal conduction capacity than the brick it holds. Just as the refractories selected should be chosen for their suitability for the service they are to discharge in respect to their physical properties of thermal conductivity, load-bearing ability, resistance to clinkering, thermal expansion, permanent expansion, spalling proclivities and heat resistance, so also should the bonding material in which the brick are laid and in each respect the mortar or cement selected should be of somewhat higher grade.

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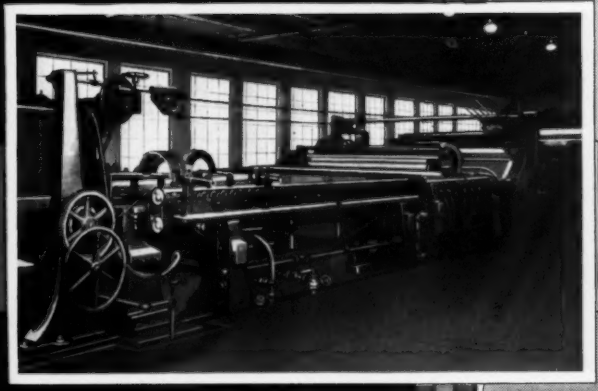

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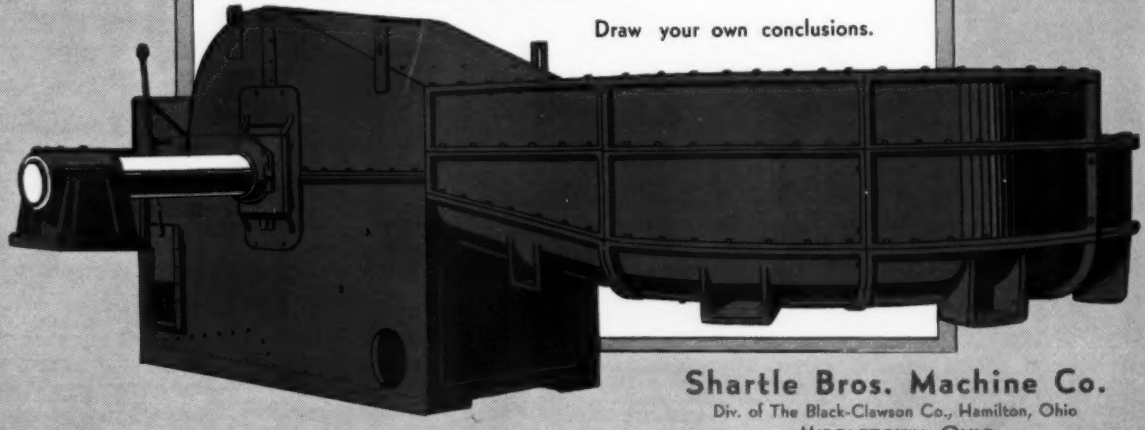

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A knowledge, such as this, of the work and competitive problems of wholesale paper salesmen is invaluable to any mill representative who wants to work *with* paper salesmen, and who wants paper salesmen to work with him and *for* him. Here is a powerful sales asset that can actually be bought for money—and only a nominal sum at that.

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Plastic Refractories and Cements

For the construction of trouble resisting baffles, bridge walls, backings for water walls and lining furnaces of boilers with high temperature coatings, or wherever a monolithic structure is advisably made on the job, the use of suitable plastic refractories and high temperature cements proves highly efficacious and often highly economical. The decidedly low cost of constructing the water walls with plastic refractory for the western installation discussed last April having been featured, a total price of approximately $7.00 per square foot of wall constructed only being entailed, as compared with some of the costs of other commercial water walls at $30.00 to $40.00 per square foot, it is of interest to draw attention now to the experience of an eastern plant with high temperature cement in reducing power plant costs and improving boiler operation.

The plant in question houses a battery of five 300-horsepower water-tube boilers generating steam at 200 pounds pressure with a total heat of 600 degrees Fahrenheit. The whole battery is not in service at any one time, four boilers usually being used during the colder months and three for the remainder of the year. The active boilers are subjected, however, to marked fluctuations in load, with the result that the parts of the furnace walls receiving the most severe service would not stand up, before being afforded suitable refractory protection by virtue of the use of high temperature cement mortar and wall coatings, for more than three or four months. At times, the entire walls, constructed of standard firebrick of good quality, would give way and fall into the fire after a few months' operation, the mortar bonding failing as well as brick disintegration and collapse occurring.

The average cost of the necessary repairs after such mishaps amounted to approximately $768.45 a year per boiler. There were also other serious losses occasioned by boiler outage, waste fuel, lost time, etc., but these were not as grave as they might have been, owing to the fact that one or two spare boilers were always held in reserve. Nevertheless, boiler maintenance was excessive and starch was made for a high temperature cement for satisfactory brick bonding and refactory protection. When such a variety of cement was found and the refractory brick skillfully laid with one grade of high temperature cement mortar and the furnace walls given a washcoat with a similar cement of somewhat higher heat conductivity, the life of the walls was increased from three, or at most four months, to twelve months or better.

The usual cost of repairing a boiler furnace, the itemized costs for the average job being given in the accompanying table, is now a matter of about $269.31 a year per boiler, as compared with former repair costs of $768.45 or more, a net saving of at least $499.14 on each boiler. On the three boilers in service the year around, consequently, the savings amount to something like $1,500.00 annually, not taking into account the value of the fuel saved and the conservation of valuable time.

Courtesy Quigley Furnace Specialties Co., Inc.

FIG. 3.

Repairing baffles with pneumatic refractory gun. With a long ¾ inch nozzle the operator reaches any point or zone in the baffle.

TABLE—COMPARISON OF REPAIR EXPENSES

Former expenses, for repairs lasting 3 or 4 months:			
2,000 firebrick at $76.30 per M	$152.60		
960 lbs. of cement mortar at $0.025	23.75		
Labor	79.80		
Cost per average repair		$256.15	
Cost per annum per boiler			$768.45
Expenses for repairs using high temperature cements for bonding and facing lasting 12 months:			
2,000 firebrick at $76.30 per M	$152.60		
800 lbs. of high temperature cement mortar at $3.83 per C	30.64		
150 lbs. of high temperature facing cement at $4.18 per C	6.27		
Labor	79.80		
Cost per average repair		$269.31	
Cost per annum per boiler			$269.31
Net saving per annum per boiler			$ 499.14
Net saving per annum for three boilers			1,497.42

Johns-Manville Corporation.

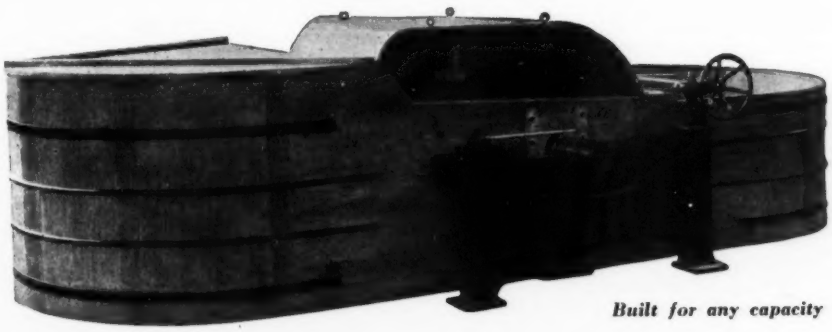
Maintenance of Refractory Linings

The examples cited of savings effected by plastic refractories in forming monolithic backings for water walls and of high temperature cement in bonding of firebrick and washcoating of furnace walls, in western and eastern plants, respectively, give some idea of the economy and convenience of applying refractories in a plastic form which permits the material to be troweled and rammed in place to construct a monolithic structure, in one case, and of employing high temperature cements which can be mixed with water to form a plastic mortar for laying refractories or thinned out sufficiently to permit of its application as a washcoat, in the other. These are typical of what may be termed special refractory systems and, in addition, attention may very well be drawn to another of these special systems, one particularly adaptable and profitable in maintenance service of refractory linings.

This third system is unique in that it incorporates certain quite novel principles which are well deserving of consideration. A quality grade of high temperature cement is employed as the bonding material in building up monolithic baffles, etc., and for repairing holes and defects in refractory walls with crushed old firebrick or refractory sand. The crushed firebrick or special sand is mixed with the high temperature cement in whatever may be the best proportions for the particular application and either tamped in place against a rigid wood lattice form or, preferably, shot in place in successive layers of about ¾ inch in thickness with a pneumatic refractory gun.

In this way, monolithic baffles are built up in successive layers quite rapidly and to any required thickness, the usual procedure being to use about equal proportions of cement and crushed firebrick or refractory sand. The crushed old firebrick, which can be as coarse as ¼ inch mesh, as such lumps are successfully passed by the air gun, possesses little or no bonding strength, but is exceptionally high in refractive capacity. The cement supplies the requisite bonding tenacity, for it bonds firmly at normal atmospheric temperatures and heat merely increases the strength of the bond. With this fortunate combination, any required degree of refractiveness and of thermal conductivity can be secured for successive layer applications of mixtures, by simply varying the proportions of cement and refractory. Thus, the temperature gradient through the built up furnace walls can be controlled and regulated.

Emergency repairs can be made while the furnace walls are hot, as with a long nozzle and hose the plastic refractory mixture can be shot on any point in the furnace wall through the firing doors or from other accessible points. In making such repairs, or repairs at more convenient times, the principle of varying the composition of the mixture to suit localized requirements can be effectively applied. Where small cracks are to be filled on the inside of the furnace linings, for instance, the cement is used neat. On the



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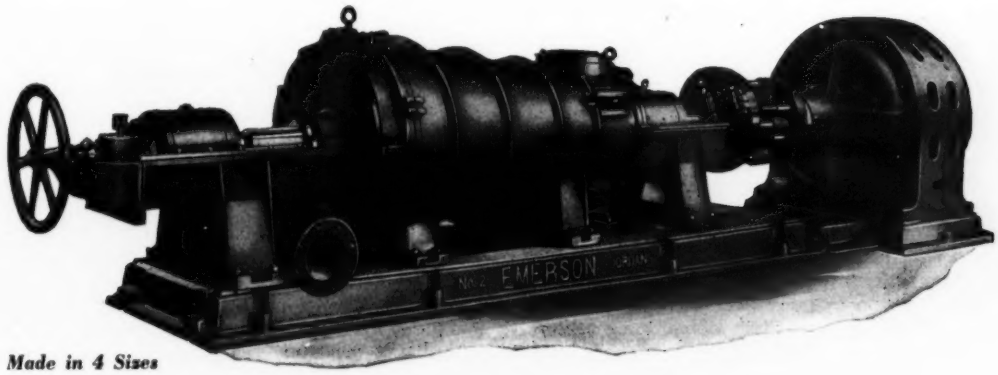

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other hand, where there is a larger crack, hole or where surfacing of refractory walls and baffles is entailed, a mixture of refractory material and cement is either troweled or shot into place, the richness of the mixture being governed by the severity of the service to which the repair or renewed lining is to be subjected.

At one mid-western paper mill plant, where three 600-horsepower boilers fired by traveling-grate stokers operate at 200 to 250 per cent of rating, an excellent type of built-up refractory arch is employed which formerly proved the source of considerable trouble, the arches failing under the extreme temperatures developed. In fact, the average life of the arches ranged from four to eight months only. About three years ago, the system of maintaining refractories by protective coatings of crushed firebrick and high temperature cement shot, or applied, in place by a pneumatic refractory gun was adopted and since then not a single arch has had to be renewed. After twenty-nine consecutive months of constant service, the arches were reported to be in excellent condition. An aggregate saving of many thousands of dollars has been realized and the investment entailed, represented by the price of the pneumatic refractory gun, a matter of $425.00.

Similar profitable experiences have been enjoyed by numerous other paper mills and at one such establishment on the Pacific coast, where the customarily troublesome fuels, so far as refractory upkeep is concerned, of oil and hog fuel are both burned, it is the practice to take one of the boilers off the line every Sunday and give the boiler lining a fresh coating of high temperature cement and crushed firebrick, applied with a refractory gun. While no itemized figures of economies realized are available, it is claimed that marked savings result from this practice.

At the plant of a prominent Canadian mill, not only is this same method employed for the maintenance of refractory furnace linings, rebuilding and repairing baffles in the various boilers, etc., but the inclined built up refractory baffles in six 478-horsepower water-tube boilers have been replaced by monolithic baffles constructed with the aid of the pneumatic refractory gun. To construct one such baffle takes fifteen hours and entails the use of about a ton and a half of high temperature cement and somewhat greater quantity of refractory material. The mixture is simply shot against lattice forms at a pressure of 80 or 90 pounds. At this same plant, in connection with repair work for which the refractory gun is particularly convenient and adaptable, a crack developed in the furnace of a large water-tube boiler, ¾ inch wide and about 4 feet in length, which was so inaccessible that it could not be reached by hand, yet with the use of a refractory gun a suitable repair mixture was shot in place and the wall returned to its original condition in an hour and a half.

Numerous other examples of instances where paper mills have found the adoption of this distinctive method of shooting mixtures of high temperature cement and refractory materials to the seat of furnace troubles highly profitable. In many instances, the mills have installed crushers for the breaking up of their old firebrick to furnish the necessary refractory component of the mixtures, in which cases the only investment entailed is the quite nominal one for a pneumatic refractory gun and for a supply of high temperature cement. The latter, doubtless, would be purchased in any case, so it is not at all surprising that many establishments have found that the use of a refractory gun on a single job has, by the savings realized, liquidated the entire investment entailed for such equipment.

In presenting this very general paper on refractory protections, the chief aim has been to draw attention to the fact that in modern refractory practices three distinct physical properties of the materials employed have to be taken into consideration; those of thermal refraction, thermal conduction and thermal insulation. These three characteristics of the refractories employed are to be appraised and rated so as to conform to the individual conditions encountered in specific cases, as indicated in the considerations advanced in respect to the use and construction of air cooled walls, water walls, protection of solid brickwork and finally in regard to maintenance of furnace linings. The fundamental principle is the same in all instances, but the control, regulation and potency of the influencing factors is different in almost every case.

To Discontinue Misrepresentations

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—"It is the only crepe paper that can be sewed successfully by hand or on a sewing machine."

The foregoing statement will no longer be used by a corporation manufacturing a general line of paper specialties to describe its product in soliciting its sale, according to a stipulation agreement between the company and the Federal Trade Commission.

The company also agreed not to use any other representation which would confuse the public into believing that its crepe paper is the only product of its kind that can be successfully sewed, when such is not the fact.

The stipulation entered into is as follows:

Respondent, a corporation, engaged in the manufacture of a general line of paper and paper specialties, including crepe paper, and in the sale and distribution of the same in interstate commerce, and in competition with other corporations, firms, partnerships and individuals likewise engaged, entered into the following stipulation of facts and agreement to cease and desist forever from the alleged unfair methods of competition as set forth therein.

Respondent, in soliciting the sale of and selling its product in interstate commerce, agreed to cease and desist forever from the use of the statement, "It is the only crepe paper that can be sewed successfully by hand or on a sewing machine," and/or from any other statements or representations which will confuse, mislead or deceive the trade and the purchasing public into the belief that its crepe paper is the only product of its kind which can be successfully sewn, when such is not the fact.

Respondent also agreed that if it should ever resume or indulge in any of the practices in question, this said stipulation as to the facts may be used in evidence against it in the trial of the complaint which the Commission may issue.

Chicago Paper Market Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 9, 1930.—Some slight progress was noted in the Chicago market during the past week with most grades of paper expecting a fairly strong seasonal demand at least from now until the time that vacation periods set in. The kraft market, however, was reported as continuing in its present more or less deflated condition with retail demand only very slightly improved. In the board market, representatives are rather prone to give up hopes for any improvement in the price situation until after the summer months. Demand and production, however, are keeping on at a fairly even keel. In the newsprint market gains were reported to have been registered in the last few days. Improved and increased advertising lineage has, of course, helped this market considerably. Book papers are unchanged with the prices firm and the same will apply to the fine paper market which evidently expects to get in some good licks before the dull period gets under way. The higher grades of waste are exceptionally strong, according to representatives. The lower grades continue to be rather dull in sympathy with their section of the market.

J. E. Hanny Honored at Luncheon

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., June 9, 1930.—John E. Hanny, manager for several years of the Crown-Willamette Paper Mills at West Linn, Ore., who was recently transferred to Camas, Wash., as manager of the company's plant there, was honored at a luncheon meeting in Oregon City May 29, when the Chamber of Commerce and Kiwanis acted as hosts. A. Bankus, of San Francisco, vice-president of the Crown-Willamette Paper Company, spoke of the successful activities of Mr. Hanny and of his merited advancement.

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PAPER TRADE JOURNAL
ESTABLISHED 1872

10 East 39th St., New York

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Price, Per Copy, 10 Cents
United States, Per Annum, $4.00
Canada and Foreign Countries in Postal Union, $6.00

Member A. B. C. Audit Bureau of Circulations

Vol. XC New York, June 12, 1930 No. 24

BENEFITS OF MANUFACTURES CENSUS

Of the advantages which will accrue to manufacturers as a result of the current Biennial and Decennial Census of Manufactures, the first and foremost probably will be the compilation of numerous preliminary reports, each of which will give figures for quantities and values of the several kinds or classes of products made within the particular industry. These reports in the aggregate will cover thousands of kinds or classes of products; and each will be published within a short time after the receipt of complete returns for the industry which it represents. These preliminary statistics will show the increase or decrease in output of each commodity, so that the individual manufacturer can easily determine whether he is getting his share of the business—whether he is holding his own, or gaining, or losing, as compared with his industry in general.

In addition, the preliminary reports will show the ratio between cost of materials and value of products, the output per wage earner, and the ratio of wages to value of output, thus enabling the manufacturer to compare his own ratios with those for the industry as a whole. The census will answer the question whether the manufacturer is paying too much for his materials, and whether his output per wage earner is too small.

But if these preliminary reports are to be of maximum value, the manufacturers must cooperate with the Bureau of the Census by making their returns promptly and by taking care to answer correctly and completely all questions that apply to their operations. Heretofore it has been the practice of the Bureau to correct and complete defective returns through correspondence before issuing the preliminary reports. This necessarily resulted in delay amounting to four or five months in some cases, and therefore, in order to reduce the delay to a minimum, it is planned to compile the preliminary reports of this census from the returns as received, with little or no editing or verification of doubtful items, except in the cases of the earliest returns. The final reports, however, will not be prepared until the defective returns have been corrected.

In the final reports will be presented detailed statistics showing, among other things, the cost of productive and of non-productive labor, the increase in the employment of women in industry in recent years, the number of hours of labor per week for individual wage earners; the migration of industries from State to State; the quantities and cost of principal materials and of fuel consumed; and the power-plant equipment.

In an effort to make the questionnaire easy for the manufacturers to fill out, the inquiry in regard to sales made during the year has been substituted in this census for the former inquiry calling for data on production during the year. Correct statistics on production are preferable to statistics on sales, but the Bureau realizes that many manufacturers have actually been reporting their sales and not their production, and it was decided, therefore, to ask what can be undoubtedly obtained from all manufacturers, rather than for what only a part of the manufacturers could and would report. In a few cases, however, the former inquiry calling for data on production has been retained at the specific request of the industries concerned.

During this Census of Manufactures, the Bureau plans to compile county and city statistics which will be of somewhat greater value to local interests than those heretofore published. Separate compilations for the sixteen great groups of industries or for combinations of these groups will be tabulated for each industrially important county and for groups of continguous counties of less industrial importance. For cities having 100,00 inhabitants or more, the industries for which separate figures can not be shown without disclosing the data for individual establishments will be presented in a number of combinations instead of in a single group.

The preliminary county and city summaries giving combined figures for all industries taken as a single group will present the following items of information: Number of establishments, number of wage earners, wages paid, cost of materials, fuel, and power, and value of products.

In response to a demand for manufactures statistics covering "industrial areas," the Bureau also will attempt at this census to compile figures on such areas, each consisting of a city of industrial importance and adjoining suburban and trade territory regardless of political divisions. For certain reasons arising from the necessity of presenting the statistics in such a manner as to avoid disclosing the data for individual establishments, the Bureau will not compile figures for individual industries for a city and also for the industrial area including that city. It is the intention, therefore, to tabulate statistics for individual industries for important industrial areas but not for the included cities. In the cases of the less important cities having 100,000 inhabitants or more, statistics by industries will be published for the cities themselves but not for industrial areas including the cities.

Combined summary statistics covering all industries, however, will be published for both the industrial areas and the cities, so that it will be possible in all cases to determine the proportion which the amount of manufacturing in a given city constituted of the total for the industrial area of which it forms a part. For example: The statistics might show that three-fourths of the total number of wage earners and four-fifths of the total value of products reported for an industrial area were contributed by the central city.

To Study Chemical Utilization of Wood

With the appointment of Dr. Edwin G. Jahn as associate professor of forestry, the University of Idaho school of forestry, Moscow, Idaho, will greatly expand its research work in the chemical and mechanical utilization of wood, announces F. C. Miller, dean.

Research in this field of wood utilization is not a new activity in the Idaho school of forestry, but the coming of Dr. Jahn will make it possible to place emphasis upon a phase of research which the school has been carrying on almost from the time it was established. The distillation of stumpwood and logging waste and studies of the use of oil for ore flotation are examples of the earlier day investigations of this sort.

"The occasion for expansion of research in this particular is a conviction prevailing in the lumber industry that a closer utilization of the standing tree must be secured if the industry is to prosper and that this can be done through the discovery of new uses of wood constituents," explained Dean Miller. "In fact wood is now used for the manufacture of a large number of commodities such as rayon, balsam wood, wall board, cellophane, carpets, ropes and mattings not thought of a few years ago

"The manufactures of artificial lumber out of wood waste is growing with great rapidity. Pulpwood is used in increasing quantities for the manufacture of paper products, fiber containers and numerous other wares. That wood alcohol may take the place of gasoline on a considerable scale is a possibility in the near future. The chemical utilization of wood is the next big development ahead, as this phase of research is only in its infancy."

Dr. Jahn received both his bachelor and master's degree from the New York State college of forestry and his doctorate degree was earned at McGill university. He is at present studying in Sweden.

Swedish Pulp Firms Increase Earnings

Three more of the constituent companies of the Swedish Pulp Company, newly organized holding company in the wood pulp and lumber industry of Sweden, report increased profits for 1929. The Holmsund Company reports net profit of 813,000 Kronor against 545,000 Kronor in 1928. The dividend of 6 per cent will be maintained.

The company's production of cellulose increased during the year from 22,000 to 32,500 tons.

The Svartvik Timber Company shows net profit of 656,000 Kronor compared with 637,000 Kronor for 1928. The sales for the year total 15,020,000 Kronor against 15,200,000 Kronor in the previous year. Productive capacity of the company's sulphite mill has been increased from 50,000 to 60,000 tons per annum. The Sund Company reports a net profit of 272,000 Kronor against 246,000 Kronor in 1928. Total sales increased 1,800,000 Kronor to 10,800,000 Kronor.

The Swedish Pulp Company was organized in the fall of 1929 by the Kreuger & Toll Company and its entire common stock is owned by the latter concern. Total resources under its control include over 30 per cent. of the wood pulp production of Sweden and over 15 per cent. of the timber output.

Plants 1,631,481 Trees in May

Ellwood Wilson, head forester of the Canada Power and Paper Corporation, Montreal, writes the PAPER TRADE JOURNAL as follows:—

"In the last issue of your most interesting paper, there was a statement that a record in reforestation had been made in Madison County, New York State, by planting 1,340,000 trees.

"This is certainly a great achievement, but during the month of May this year this company planted 1,631,481 trees, which is considerably below our usual amount planted; we will plant another two and one-half million trees during the fall season; and this company has for several years been planting from two to five million trees per annum.

Enthused Over Wood Pulp Possibilities

At the Georgia Commercial Forestry Conference held under the auspices of the Georgia Forestry Association and the United States Chamber of Commerce at Savannah, May 26, 27 and 28, much enthusiasm was created over the possibilities of using southern pine for the manufacture of white paper.

Dr. Charles Herty, industrial chemist, New York, who has been conducting investigations, stated that findings made more than a year ago to the effect that second growth slash pine up to 25 years of age contains no more gum than red spruce had been checked by chemists of a large northern paper concern and found to be exactly in accord with findings previously made by chemists. The production of gum, he said, occurs only when the living trees are wounded.

What is true of young slash is considered to be certainly true of young loblolly and scrub pines, which have less gum producing capacity than slash, and probably true of young longleaf pine. The amount of young growth of these various species of pines in the south is almost unlimited. They grow to pulpwood size in from ten to fifteen years.

Richard Woods Edmonds, associate editor of the *Manufacturers Record*, spoke on the wood pulp possibilities of the south, telling of the progress of paper manufacture of the south and declaring that recent discoveries indicate that the south is to become the chief source of paper pulp in this country, possibly making this country independent of foreign sources.

A number of timber owners who took part on the program told of progress in reforestation, and fire protection, their objectives being mainly turpentine and saw timber, but they saw great possibilities in the sale of thinnings as wood pulp material, also the tops of saw timber.

Considerable hardwood in swamp and semi-swamp areas also contain a number of species of trees suitable for wood pulp, such as black gum and bay.

Business Speeches by Business Men

Published by the McGraw-Hill Book Company, Inc., "Business Speeches By Business Men," compiled by William Phillips Sandford and Willard Hayes Yeager, is a collection of representative speeches by leaders of American industry, ranging in character from public addresses on economic and political subjects to the more intimate type of after-dinner talk.

Among the noted men whose speeches are contained in the volume are: President Herbert Hoover, George M. Cortelyou, Harry E. Guggenheim, Haley Fiske, Bruce Barton, Francis P. Garvan, E. St. Elmo Lewis, Charles M. Schwab, General J. G. Harbord, Elihu Root and Charles Evans Hughes.

Of special interest to the paper industry are the addresses of Jesse H. Neal, general manager of the American Paper and Pulp Association, on "The Economics of Industrial Advertising," and Dr. Arthur D. Little, of Arthur D. Little, Inc., Cambridge, Mass., on "Impending Changes In Our Use of Fuels."

Union Bag & Paper Corp. Changes

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., June 9, 1930.—Daniel W. Evans has tendered his resignation as chief engineer of the Union Bag and Paper Corporation following many years of service. For some time past he had also served as superintendent of power houses and the recent sale of those interests abolished the position. He came here from Cheboygan, Mich., about ten years ago and only a few months ago received promotion. He has not announced his future plans.

It was also announced that William Buckless, boss machine tender at the Fenimore Mill, has been reinstated by officials following a conference with the International organization. He was suspended from his duties several weeks ago.

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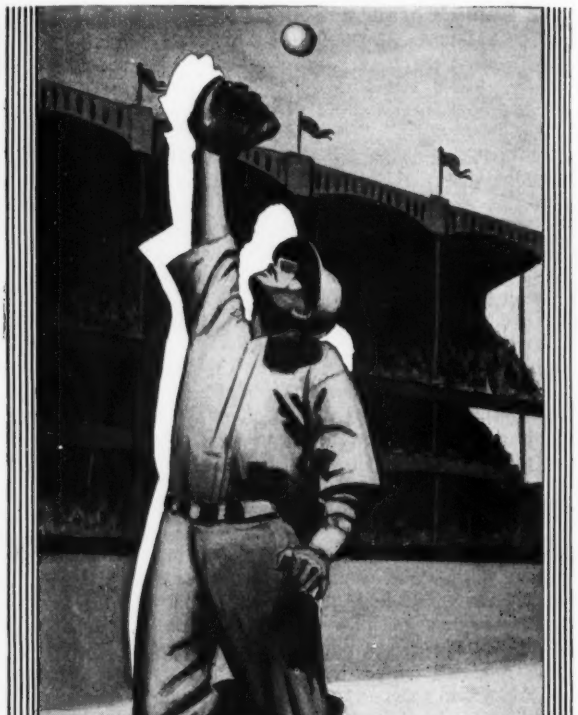

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Human Engineering in the Pulp and Paper Industry *

By Roderic Olzendam [1]

Events have so shaped themselves during the past 12 years that it has been my good fortune to labor as a worker in the pulp and paper industry; to hold office in one of the trade unions, and to be a junior executive in your managerial ranks. I have flown, portaged, and paddled hundreds of miles with your foresters, and with your woods superintendents and walking bosses I have smoked many a pipe of discussion. I have talked with superintendents and foremen, with trade union leaders, with presidents, directors, and chemists as well as with officials of Commerce and Labor Departments in this country, in Canada and abroad. Our talk has been of men and the thoughts men think on the midnight shift, on the far trails of Northern Ontario, and in the depths of a mine in the Ruhr; always we seem to have explored the basic desires, attitudes, and ambitions of men, regardless of positions held or language spoken. Our discussions have revolved about man himself—everywhere we have delved into those matters which are now being brought together into a new concept of the oldest of the social sciences. A new creed is developing which is expressing itself in the science and art of human engineering.

It is about human engineering and its immediate application to the problems of the pulp and paper industry that I have been invited to address you today. It is my feeling that men have speculated long enough about human relations. The time has come when we should be able to speak of human engineering with precision. Surely we have had enough grievances and settled them satisfactorily, enough strikes and lockouts, enough failure and enough success to enable us to put our heads together, study the accumulated data, and set forth those positive fundamentals which will ensure understanding in a given factory. Out of the accumulated experience of the men and the management in this industry, a statement of such fundamentals could be written. Bring the qualified men together for the purpose and the result will be stimulating. The men of the Technical Association are trained in mental precision. Their approach to the problems of research is scientific, and therefore, impersonal. Were the technicians of your industry to bring about a scientific approach to the problems of human engineering, a tremendous service to the industry would thereby have been rendered.

Frankness grows out of comradeship between men. Such frankness has furnished me with certain definite impressions of the desires of men in industry. Success in human engineering in the pulp and paper industry or in any industry will not rest on any machinery or formulas I, or any one else, may suggest. The handling of people, leadership, is to a considerable extent, a matter of psychology, of an attitude of mind, rooted in an understanding of human nature which produces a sympathetic concern for the objectives of every individual. Success in human engineering in the pulp and paper industry will be largely determined by the attitude which the major executives assume towards men of all ranks as manifested by the attitude of the president towards junior executives, they in turn towards foremen, and foremen towards hourly workers. What precisely is this attitude? It has never been better stated than by Calvin Coolidge when, in addressing the Senate of Massachusetts on being elected its presiding officer, he said:

> "Man must work for more than wages, factories must turn out more than merchandise, or there is naught but black despair ahead. . . . Wages won't satisfy, be they ever so large, nor houses, nor lands, nor coupons, though they fall thick as the leaves of Autumn. Man has a spiritual nature. Touch it, and it must respond as the magnet responds to the pole."

It is just this magnetic touch which will cause a confident, contributive attitude of mind to take the place of a combative, suspicious attitude.

European Conditions

Europe has been experimenting in these matters for decades. Her task has indeed been difficult, and in considering that continent, we should realize the multiplicity of the complications which she has had to wrestle with and our comments should be full of sympathy and understanding. She has had a long experience which sound business dictates we should study with the utmost care. Perhaps after investigation, we will find that none of her systems will suit our problems on this continent; perhaps, we will only learn what not to do, but that will be valuable. Yet, on the other hand, some examples of human engineering which it was my privilege to observe in Europe are finer than any to be found elsewhere. She has tried the paternalistic approach which speaks of "capital" doing this or that "for labor." She has forced her society into frozen classes and has attempted to label people for life, "even unto the third and fourth generations" as "workers," "middle class" and "the aristocracy." She has regimented men and women in military formation and imposed rules to regulate industrial conduct; she has ratified scores of international treaties in an effort to legislate an attitude of mind—"to bring social justice"; she has evolved theories and doctrines innumerable; and yet, under whatever system of control whether Socialism, Syndicalism, Capitalism, Fascism

* Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 20, 1930.
[1] Director of Industrial Relations, Policyholders Service Bureau, Metropolitan Life Insurance Company, New York, N. Y.

or Communism, the concrete hour-to-hour, day-to-day human problems are not changed; they do not vary. Under Socialism, paper machines will not operate themselves; under Syndicalism, a cord of spruce will not magically become a ton of paper; under Capitalism, power will not generate itself; nor with Communism in the saddle, have we seen a digester cook itself. Under every one of these systems, human beings must be on hand in the morning, and again in the afternoon; operation problems remain operation problems; men are men under every conceivable "ism."

The Will to Accomplish

What, then, is this new concept of human relations which has begun to be assumed in certain instances on this continent and in Europe? We are discovering that the will to accomplish, in the minds of a group of working people, is one of industry's most powerful assets. We are learning that when men have a sense of security against the perils of life's major risks, they can work with an assurance and confidence which they do not otherwise have. We are learning that when men get satisfaction out of their jobs, because they know what they are doing, why they are doing it, because they know about the materials with which they are working, and the connection between what they do and the finished product, industry and society profit as well. We are realizing that the conditions which permit a man thus to labor cannot be bought, coerced, or coddled into existence, nor can they be born in an organization overnight. They seem to come, with time, naturally, when management by its actions demonstrates to a man in the woods, in the office, and in the plant that it considers him an associate, capable of making an essential contribution to company success and not as an unintelligent subordinate.

Recently, a merger of five or six companies in the same industry took place. Before the public was advised of the merger, the president called in representatives of employees from mills and offices and informed them of what had been done, and of why it had been done. He asked for their continued collaboration in the new company. Within a few days, the president of the merged companies received a document, uninspired by the management of the subsidiary, which read as follows:

"Dear Sir:

"We have been employed by the A. B. C. Company for many years and take pride in the Company's name, its reputation, the products that it manufactures, and the integrity of its personnel.

"We are happy to have the opportunity of joining with the X. Y. Z. Company and wish to assure you of our loyalty and desire for the progress and prosperity of the combined companies in the future."

This statement was signed by 275 employees of all rank. The president of the merged companies then wrote personally to each one of the signers thanking him and saying in part:

"Such evidence of loyalty cements my firm confidence in the future growth and success of A. B. C. Company and the greater X. Y. Z. organization, as *such success which comes to us is very largely in the hands of you and your associates* who joined in sending that inspiring letter."

In another instance a merger was consummated and the officials of the new corporation completely shut off all information from employees. The policy of several of the subsidiary companies for years had been to give information to employees about the company and its business, about markets, quality, quantity, and cost of production. The employees were suddenly plunged into darkness as to what was intended. Wholesale discharge followed. Many employees with long and faithful service records were dismissed. The reason for such procedure was given as "a necessary cutting down of overhead." A group mind zealous for company success was suddenly transformed into an antagonistic, suspicious mass of disappointed people. Security and satisfaction were gone, the fire of imagination which had burned in thousands of minds was smothered and went out. There was "naught but black despair ahead" for the vast majority of employees.

Another company faced a strike. The employees belonged to recognized trade unions, the company belonged to an employers' association. The management could have called in representatives of employees and settled the difficulty in half a day. But the company said to employees, "You belong to trade unions and we belong to employers' associations. Largely as a result of misinformation on the part of all concerned, a strike is called and you are duty bound to cease work. A strike generally connotes a bitter fight. We feel no bitterness—we have no ill-will in the matter. We expect you to strike. However, you are under a company policy, which entitled you to vacations with pay. Our suggestion is that you take your holidays during the strike. We will pay you your regular wages for the holidays to which you are entitled. Furthermore, you will not lose continuity of service as a result of going out on strike and your various service benefits in the way of group insurance, service buttons, etc., will be continued." The strike lasted six weeks. The men came back to work early in June—the month of July immediately following was the greatest operating month in the history of the company from the point of view of total output, of output per man per eight hour day, of low costs, and of high quality.

Summed up, it seems to me to mean just this. It is not so important *what* a company does as *how* it does it. There is not a job in the pulp and paper industry that cannot be done better than it is being done. During the next decade, this industry will require the mental presence as well as the physical presence of every man on the payrolls, salaried and hourly. Through the stimulation of pride in the trade, in craftsmanship, which is based upon knowledge of the facts of the situation, an eagerness on the part of each individual to do his own job better will come, because the basic, positive nature of man will have been touched.

The president and board of directors of each company, in consultation with employees, would be well advised to establish a policy covering human engineering for the next ten to twenty years. Policies in human relations formulated without thorough consideration are dangerous. It is obvious that with changes in management personnel, certain slight changes in labor policies may occur, but basically it is continuity of management ideas which is vital for the highest success. The course finally agreed upon should be designed, generally speaking, for years rather than months. Occasions will arise during this period when the temptation will be strong to abandon the entire program. These periods can be expected and prepared for. Infinite patience is a price one has to pay for good industrial relations.

As something definite in the way of material for a pulp and paper company to use, I have assumed that there is a "Woodstock Pulp and Paper Company" and have prepared a suggested statement for that company.

Human Engineering Policy of the Woodstock Pulp and Paper Company

Object of the Woodstock Company. The Woodstock Pulp and Paper Company was organized to provide a permanently profitable investment for capital and to provide a continuous and enjoyable occupation for men through the manufacture of pulp and paper of the finest quality.

Object of the Human Engineering Policy. To bring about conditions whereby there shall be maximum production in woods, mills, and offices at minimum costs, consistent with satisfactory quality, without physical or mental injury to the workers so that all associates of the company may derive the greatest benefits from their connections with the company.

1. Employment. A centralized employment office has been established in which applicants for work will find a sympathetic reception and where each accepted individual will be placed at work which he is best fitted to fill in the light of his physical and mental characteristics.

We believe employees share with us the desire to reduce mental unemployment as well as physical unemployment to a minimum so that the company may receive from each man a full eight hours' effort, mental and physical, and that he in turn may get satisfaction out of his work.

2. Health and Safety. The maintenance of the physical well-being of the entire working force is fundamental to company success. Those measures which modern industrial hygiene deems essential for the safeguarding of the health of employees concern the management and preventive and curative measures are an integral and vital part of our program.

3. Security. Believing that there are certain outstanding causes for those things which fret the mind of the average man, the company lends its support willingly, and as a sound business policy to such propositions as insurance covering death, sickness, accident, total disability and old age, and in cooperation with employees will endeavor to find ways and means of stabilizing employment and of remunerating employees out of work through no fault of their own.

4. Training. The safeguarding of an equality of opportunity for every individual on our payrolls is fundamental. We shall endeavor to stimulate the efforts of each individual to take that position in the company to which his intelligence, character, ability, and ambition entitle him. The training of executives, junior executives, foremen, and of all other workers in mills and offices constitutes one of our greatest sources of success. We expect every man to take steps to improve himself, and we shall aid him in so doing by the establishment of various training courses. Through our knowledge of the industry and of our particular jobs, we shall keep the Woodstock Company in the forefront of the industry.

5. Information. The company will see to it that employees are fully informed in all matters which concern them and that they are dealt with at all times as business men.

The giving of more information about the business to everybody in the establishment, information on markets, materials, quality, processes, output, the ultimate use by society of the article produced, will in the long run assure mental employment in our company. We will see to it that employees receive correct information based upon facts so that their actions may be governed at all times by an intelligent insight into those matters with which they have to do.

6. Suggestions. We believe that our employees have ideas which if expressed and studied will aid in improving the business. We believe that the average worker in the Woodstock Paper Company desires to build into the pulp and paper industry his own ideas for improvements which are found by impartial test to be wise. The operating of policies of the Woodstock Company will at all times encourage the rank and file to study and devise ways and means of making more and better paper at lower costs.

7. Promotion. Equality of opportunity and promotion from within, when the right men are available, and the showing of no favoritism, are fundamentally necessary for harmonious operation. We will work towards having an understudy for every position.

8. Mutual Interest Board. The habit of conference will be encouraged. A committee at whose meetings all matters of mutual interest may be discussed, where our men may advise with and learn the policies of the general management, and where there may be reflections to the management of the sentiment of employees is necessary. Therefore, a mutual interest board, composed of management and employees has the unqualified support of the officials of the company and will be created. This board will in no way affect any trade union contracts we may have entered into.

Results That May Reasonably Be Expected from Such a Program.

1. An improvement in the quality of all products turned out.
2. A consistently lower cost.
3. An increased output per worker per day.
4. A wider and deepening interest on the part of the majority of the workers, salaried and hourly, in the Woodstock Company will be increasingly evident.
5. A general improvement in the health and safety of employees.
6. A reduction of labor turnover.
7. Long and faithful service will become prevalent.
8. Matters for adjustment between the men and management will be materially reduced.
9. Strikes and lockouts will be outlawed by the very nature of events.
10. Increasing satisfaction on the part of each individual in his job which in the last analysis is really the crux of the whole problem.

The Measurement of Results. The term human engineering implies a scientific approach far removed from the ideas one conjures up when the familiar term welfare work is used. Engineering connotes a precise measuring of results. The measuring of the results of human relations has generally been rather vague and intangible. The time has come when a company to attain its greatest success, should know precisely what effect a program of industrial relations has upon its output, cost, and quality as well as upon the sense of security and satisfaction of employees. It is up to each company to devise an exact system of measurement. Unless there are measuring rods, it is impossible to direct a program of human engineering with intelligence.

A Policy for the Industry

If the pulp and paper industry feels that it would be a profitable thing to put its human engineering on the same basis of sound management as are its other policies, you would be well advised to appoint a human engineering committee to aid in evaluating what individual companies are doing. To measure the results of the industry as a whole and to coordinate the entire movement, this committee would institute a system whereby the results in each company could be compared with the results obtained in other companies; likewise, the results in the industry as a whole could then be compared with results in other industries. For example, it might be possible to compare labor turnover figures in this industry with those in another industry through the newly created labor turnover indices of the Department of Labor in Washington. Your work in safety is well known throughout the country. Stability of employment, grievances, days lost due to strikes and lockouts, the number of employees' suggestions accepted, the matter of security for workers in your industry as a whole, the general health of men and women, all these subjects would fall within the scope of the work of the human engineering committee of the pulp and paper industry.

Conclusion

You have spent sixty thousand dollars and a vast amount of research and effort in developing one of the most unique sets of text books for training that any industry has produced. The next logical step in the development of men would seem to be to take stock of your total situation. You should make sure that the young men and boys whom you are training will go to work in an industry that has a real appreciation for and sympathy with the objectives of the men in woods, mills and offices. If the industry should feel that it would be sound practice to make such a survey, unquestionably, agencies experienced in this sort of work could be found to collaborate with the industry.

The history of this industry is replete with examples of the application of real intelligence to the problems incident to the founding and expansion of an industry on the North American continent. My contacts lead me to believe that when all pulp and paper makers put as much genius into human engineering as they have put into chemical engineering, mechanical engineering, finance, purchasing, and sales, any existing causes of misunderstanding will be removed, if fear and suspicion exist, they will be gradually broken down, and conditions justifying confidence between all persons in the industry will be built up. Such a condition spells growing prosperity for your industry.

Pollutional Surveys in Wisconsin Paper Mills*

By L. F. Warrick[1] and K. M. Watson[2]

Cooperative waste utilization and stream improvement activities by the Wisconsin pulp and paper industry and state agencies were started in 1926 following a meeting with mill executives held February 10, in Milwaukee. At this meeting it was pointed out that the mill wastes constitute one of the principal sources of stream pollution, but that no practical and economical method of recovering or treating some of these wastes had yet been developed. Accordingly it was decided to cooperatively seek a solution of the various problems presented. To this end the industry appointed a committee of seven to work with state officials in inaugurating and carrying out a definite program. At the first meeting of this committee on March 31, 1926, a resolution was adopted and sent to all mills, as follows:

WHEREAS, a committee representative of and chosen by the mills of Wisconsin has been formed for the purpose of cooperating with state authorities, and also for the purpose of instigating further methods of reducing objectionable stream pollution, and

WHEREAS, the aforesaid committee has information that many pulp and paper mills in Wisconsin still have unnecessary fiber losses due to the fiber content of waste water discharged into streams, and

WHEREAS, further study of existing losses and methods of recovery will be practical and profitable, and will materially assist in the important problem of controlling stream pollution and conserving fish life, be it

RESOLVED, That this committee recommends for the improvement of the waters of the state:

(1) That each individual mill definitely ascertain the extent and character of its fiber losses, and

(2) That where the investigation indicates unnecessary fiber losses exist, a definite progressive program be instigated to install such equipment or make such improvements as may be necessary to prevent these losses and thus minimize stream pollution from this source.

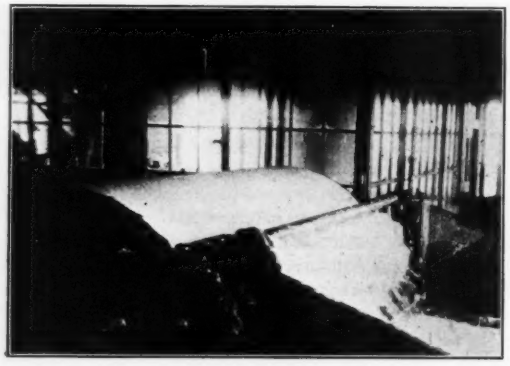

FIG. 1.
Typical Saveall.

To further the cooperative program and to obtain information as to the pollutional value of various pulp and paper manufacturing wastes, the above resolution was followed by a survey of the mills during the summer of 1926. Results of this initial survey are presented and discussed in some detail in the special report, entitled, "Stream Pollution in Wisconsin," copies of which can be obtained on request from the Wisconsin State Board of Health.

During the period of 1926 to 1929 many improvements were made in the mills thruout the state with the object of reducing wastes to a minimum. More effective utilization of white water thru the installation of savealls, (Figs. 1 and 2), and recirculation systems, efforts to secure more efficient usage of chemicals and other materials in the mills, and research to determine practical and economical means of waste recovery or disposal, constitutes some of the cooperative activities which were carried out by the industry.

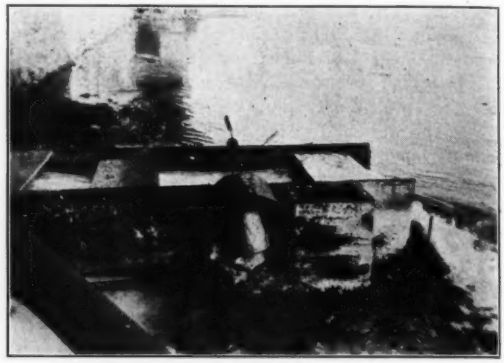

FIG. 3.
Flow Measuring and Sampling Device.

In order to determine the present status and to further stimulate the pulp and paper mill waste utilization and stream improvement program in Wisconsin, the committee agreed upon a proposed mill waste survey at a meeting held on February 1, 1929, and decided to request the United States Forest Products Laboratory to cooperate with the State Committee on Water Pollution through the Bureau of Sanitary Engineering of the State Board of Health in organizing and assisting with the survey. Due to lack of funds for this purpose and limited personnel the laboratory was unable to actively participate in the program outlined, but offered assistance in connection with any specific problems that might develop.

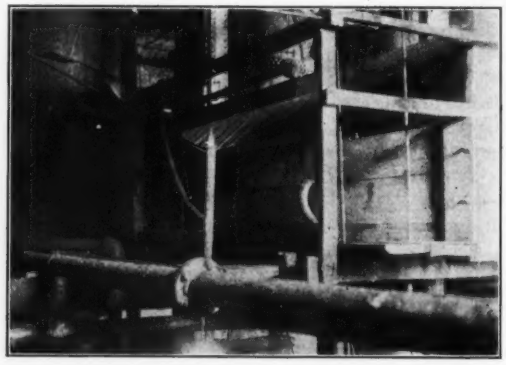

FIG. 2.
Inclined Screen Type Saveall.

The program was called to the attention of mill executives by the committee, and their cooperation was solicited in carrying out the proposed survey.

Preliminary to the opening of the actual survey, arrangements were made for the establishment of base laboratories at several mills. Each of the points selected for such a field laboratory was so located that samples might readily be collected from a number of surrounding mills and returned to the laboratory on the day of col-

* Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 18, 1930.

[1] State sanitary engineer, Wisconsin State Board of Health.

[2] Asst. prof. of chemical engineering, University of Wisconsin, Madison, Wis.

lection. The equipment used in the laboratories was of a portable nature, permitting the completion of five day biochemical oxygen demand tests and pH determinations at each base point. A portable electric incubator was carried for the base tests. Arrangement was made with the State Laboratory of Hygiene to make complete analyses of all samples collected in the field. This laboratory also prepared standard dilution water for the biochemical oxygen demand tests and the necessary chemicals and solutions which were shipped to the field laboratories as required.

Two visits were made to each mill included in the survey. At the time of the first visit conferences were arranged with managers and superintendents during which the survey work was discussed in detail and in each case their further cooperation in the program of waste utilization and stream improvement was urged. Emphasis was placed on the economic loss accompanying inefficient waste recovery and the desirability of instituting methods or procedures whereby wastes might continually be determined and controlled. It was recommended that the present survey be supplemented by more detailed determinations of the sources of wastes, conducted by the mill staff or in cooperation with the United States Forest Products Laboratory. Where it was desired information was given as to the most desirable methods for measuring and sampling sewer flows and for the analysis of the samples. Continuous measuring and sampling devices were recommended where feasible. (Fig. 3)

During the first visit to the mill a complete tour of inspection was made and a chart prepared showing the processes and equipment employed and the flows of products and wastes. From this information a plan was developed whereby samples might be obtained to represent the entire loss of fibrous or chemical wastes from the mill and to measure the corresponding volumes of flow. Where possible, the flow measurements were made by means of weirs. A calibrated pitot tube or floats were used for the estimation of velocities in inaccessible sewers. It was arranged that the mill should construct the necessary measuring and sampling equipment and that on a specified date an employe should be delegated to collect samples and make flow measurements in all sewers. Samples were collected and readings recorded at intervals ranging from fifteen minutes to one hour over periods ranging from five to 24 hours. It was attempted to proportion the samples collected to the rates of flow.

The second visit to each mill was made at the close of the selected sampling period. The samples were placed in two liter sample bottles which were provided with convenient shipping boxes. All data regarding flow measurements were recorded and the methods used verified. The samples were immediately returned to the field laboratory where dilutions were made for the determination of the five day biochemical oxygen demand. The pH of each sample was determined by colorimetric methods. About one liter of each sample was then shipped to the State Laboratory for the determination of fixed and volatile soluble solids, fixed and volatile suspended solids, total solids and oxygen consumed.

Information Collected

A detailed report was compiled of all the information and data collected at each mill, the individual reports being sent only to the mill concerned. Included in each report was a list of the officials and technical staff of the mill, the types of products, the average and maximum rates of production and descriptions of the processes, equipment and flows of products and wastes. The data which were obtained in the survey were presented in tabular form for each individual sewer and summarized to show the total losses from the entire mill. The following information was included:

a. All analytical results expressed in parts per million.

b. The consistencies of fixed, soluble and total solids and the five day biochemical oxygen demand in pounds per thousand gallons of waste.

c. The volume of flow of each sewer.

d. The daily losses of fixed, soluble, and total solids and the five day biochemical oxygen demand expressed in tons per day.

e. The losses of fixed, soluble and total solids and the five day biochemical oxygen demand expressed in pounds per ton of bone dry product.

For the interpretation of these results it was pointed out that fixed suspended solids represent clay, filler and the like. The volatile suspended solids represent fiber. The soluble solids represent all dissolved materials, including those originally present in the water used.

In order to summarize and compare the results from the various mills all data were expressed in pounds of loss per ton of bone dry product and the mills classified into groups based on the type of product manufactured. The number of gallons of water used per ton of product was also calculated in each case. The five day biochemical oxygen demands of the wastes were expressed both in pounds of demand per ton of bone dry product and in terms of the population, which by the production of domestic sewage, is equivalent in oxygen demand to the wastes from the manufacturing of one ton per day of the mill product. Calculation of these "population equivalents" was based on investigations of the United States Public Health Service and the Sanitary District of Chicago, and other data indicating an oxygen demand of domestic sewage equivalent to 0.167 pounds of oxygen per capita per day. Where it was possible, the losses of each mill were separately attributed to its various individual products, for example, paper, sulphite

TABLE I

SUMMARY OF 1929 PULP AND PAPER MILL WASTE SURVEY

	No. of mills	Quantities of wastes: Gallons water per ton	Quantities of wastes: Fixed suspended solids	Quantities of wastes: Vol. suspended solids	Quantities of wastes: Soluble solids	Pollutional values: 5 Day B. O. D.	Pollutional values: Population equivalent per ton/day
			Pounds per ton of product				
† Paper Mills	24						
Average		31,100	8.0	43.6	84.5	3.7	22.2
Maximum		100,000	30.7	143.7	890.0	9.0	54.0
Minimum		1,300	0.0	1.9	4.5	0.03	0.2
† Sulphite Pulp & Paper Mills	5						
Average		89,050	13.8	123.0	1831.0	154.0	834.0
Maximum		160,000	44.0	192.0	3840.0	250.0	1500.0
Minimum		51,900	4.8	63.2	763.0	54.8	348.8
† Groundwood Pulp and Paper Mills	3						
Average		18,400	7.2	53.0	35.3	2.5	15.7
Maximum		30,300	11.7	73.1	41.6	3.6	21.6
Minimum		12,400	1.2	36.8	31.0	1.6	9.6
† Kraft Pulp & Paper Mills	6						
Average		77,350	31.2	73.0	395.0	119.0	717.0
Maximum		141,000	65.0	183.0	879.0	438.0	2628.0
Minimum		34,100	4.4	13.2	103.5	12.9	83.4
† Rag Pulp and Paper Mills	2						
Average		86,500	104.0	206.0	569.0	46.0	276.0
Maximum		106,000	162.0	331.0	1111.0	64.0	384.0
Minimum		67,000	47.0	82.0	26.8	28.0	168.0
† Board Mills	3						
Average		26,500	5.0	41.1	61.3	11.1	66.6
Maximum		40,700	10.0	64.0	129.0	14.0	84.0
Minimum		10,800	1.1	27.8	24.2	5.3	31.8
* Sulphite Pulp Mills	9						
Average		66,883	11.0	72.9	3104.0	185.0	1108.0
Maximum		213,000	30.0	224.0	6405.0	440.0	2640.0
Minimum		28,800	0.5	13.0	380.0	29.6	178.0
* Groundwood Pulp Mills	4						
Average		35,125	7.7	69.6	62.0	7.8	46.8
Maximum		102,000	27.0	116.0	91.0	15.4	92.4
Minimum		7,400	0.0	16.1	34.1	2.6	15.6

* Based on average production of pulp.
† Based on average production of paper.

TABLE II

DISTRIBUTION OF PAPER MILLS ON BASIS OF WASTE SURVEY RESULTS

Per cent of maximum	Water used	Fiber loss	Population equivalent
0—20	8	10	8
20—40	10	7	4
40—60	4	3	5
60—80	0	2	5
80—100	2	2	2
Total	24	24	24

pulp, and groundwood pulp, and the mill reported under each of these groups.

Complete charts were prepared, summarizing results obtained for the various types of mills, in so far as they could be classified or grouped according to products. In addition, tabulation was made of the average, maximum, and minimum data obtained for each class of mills together with the number of mills in the class. A copy of this general summary of results was sent to each cooperating mill and is shown in Table I., while a further analysis of the data for paper mills is found in Table II.

In Table II are shown the number of paper mills whose water consumption, fiber losses, and population equivalents fall in specified ranges of variation. In column 1 are the ranges of variation expressed in percentages of the maximum shown by any mill. In column 2 are the numbers of paper mills having water consumptions corresponding to the ranges indicated in column 1. Columns 3 and 4 show similar distributions for the mills on the basis of fiber loss and population equivalent. For example, for column 2 of Table II it will be noted that 10 mills, or 42% of the total number have a fiber loss less than 20% of the maximum fiber loss found in any mill. Referring to Table I it will be seen that these 10 mills have fiber losses less than 29 pounds per ton of paper, while the average fiber loss is 43.6 pounds per ton of paper.

A study of Table I will disclose a considerable fluctuation in the results obtained in the sulphite pulp mills. The variations in the reported losses of soluble solids and biochemical oxygen demand values result from the difficulty of obtaining truly representative average samples from blow-pit sewers. With the procedure which was available it is probable that only the average results for this class of mill are fairly dependable values. The wide variations noted in the losses and pollutional values of kraft pulp mill wastes are probably fairly accurate indication of the variation in the efficiencies of black liquor recovery which result from different types of operation.

The results of the survey definitely indicated the general need of more systematic control over whitewater systems in order to keep losses at the lowest feasible amount. Installations such as shown in Fig. 3 for the continuous measurement and sampling of the mill effluents and the standardized tests for the daily determination of the losses have been advocated. Leaks and other sources of unnecessary waste can be detected and corrected through such a systematic control procedure as recommended. From observations made it would seem advisable, from the economic point of view alone, that the full time services of one man be devoted to checking up on the whitewater system. The data obtained is of value also in ascertaining additional mill improvements which could be made to further minimize the wastes.

Progress is being made in the recovery and utilization of various chemical wastes which are the major source of stream pollution so far as pulp and paper mills are concerned. Further and more concentrated activity, in securing satisfactory solutions for the many problems involved, particularly those applying to sulphite waste liquor utilization, is urged.

In conclusion, though considerable progress has already been made under this cooperative program, the work has just started. Much remains to be accomplished from both the waste utilization and stream improvement points of view before the problems can be satisfactorily and economically solved.

TAPPI Notes

Donald I. Gross of the Industrial Rayon Corporation in Cleveland, is now located at the Covington plant of this company.

Vaino Nissenen, who for the past few months has been with the Lagerloef Trading Company, has just sailed for Finland where he has taken a position as pulp mill superintendent for Enso-Gutzeit Osakeyhtio, Enso.

Charles F. Black, formerly of the Fulton Engineering Company of Philadelphia, is now with the Penberthy Injector Company of that city.

Kakari Koivulehto, who for several months has been with the Castanea Paper Company at Johnsonburg, Pa., sailed this week for Finland where his home is.

F. W. Motschman, for more than a year with Continental Paper and Bag Corporation at Rumford, Maine, has gone with the International Paper Company's research department at Glens Falls, N. Y.

G. J. Armbruster, for several years connected with the Fraser Companies, Ltd., at Edmundston and more recently with the Restigouche Company, Ltd., at Campbellton, is now connected with the Puget Sound Pulp and Timber Company at Everett, Wash.

N. C. Cooper, whose article on slime control appeared in the May 15 issue of the PAPER TRADE JOURNAL, Technical Section, is now connected with Roessler & Hasslacher Chemical Company at Niagara Falls. Mr. Cooper was formerly with the Electro Bleaching Gas Company in New York.

Arthur A. Scott's name was inadvertently omitted from the membership roster in Technical Association Papers for 1930, which should have been as follows:

Scott, A. A. (M. 1929) Physicist, Anglo-Canadian Pulp and Paper Mills, Ltd., Quebec, P. Q. Mail: 149 Brown avenue, Quebec, P. Q.

New Tappi Members

A. B. Andrews, analytical and consulting chemist, Lewiston, Me.

G. K. Bergman, managing director, A/B Centrallaboratorium, Helsingfors, Finland.

H. J. Cameron, insulating development engineer, General Electric Company, Ft. Wayne, Ind.

J. N. Cowley, purchaser engineering, Albert E. Reed & Company, 50 Cannon street, London EC 4, England.

H. A. Du Bois, sulphite research contact man, Kimberly Clark Corporation, Neenah, Wis.

R. J. Egan, sales representative, Bulkley, Dunton & Co., New York, N. Y.

S. C. Fairbanks, chief chemist, Hamersley Manufacturing Company, Garfield, N. J.

G. B. Fowler, treasurer, Valley Paper Company, Holyoke, Mass.

Samuel Geijsbeek, consulting chemical engineer, Geijsbeek Engineering Company, Seattle, Wash.

Gust Johanson, pulp mill foreman, Celulosa Cubana, Tuinucu, Cuba.

G. D. O. Jones, laboratory assistant, Forest Products Laboratories of Canada, Montreal, P. Q.

D. T. McCormick, superintendent, 1989 Harrison avenue, Muskegon, Mich.

H. R. Murdock, director research department, Champion Fibre Company, Canton, N. C.

Ray Smythe, general manager, Willamette Iron and Steel Works, Portland, Ore.

R. H. Stagemyer, charge research activities, Penn Fibreboard Company, New York, N. Y.

Gideon Studley, Jr., engineer research and development, Anglo-Canadian Pulp and Paper Mills, Quebec, P. Q.

S. W. Wiley, president and general manager, Wiley & Co., Baltimore, Md.

Report on Physical Standards For Pulp*

By Donald E. Cable,[1] Chairman

One of the decisions of major importance made by our Committee last Summer and mentioned in the report presented on September 25, 1929, at Richmond, Va., was that our future efforts would be directed toward the development of a set of tentative standard pulp testing methods which will include the following general features:

I. Method of sampling pulp.

II. Apparatus and method used in making and conditioning the sheets.

III. Preparation of sheets from disintegrated but unprocessed fiber (for unbeated, felting or initial test).

IV. Preparation of sheets from both pebble mill hydrated and disintegrated fiber after two or more time intervals.

V. Preparation of sheets from small beater processed fiber with stock for the sheets being removed progressively from the beater at regular time intervals.

VI. Provision is to be made for the testing of the above pulp sheets according to one or more of the following types of physical measurement:

a. Bursting strength
b. Tensile breaking strength
c. Tearing strength
d. Folding endurance

VII. Results shall be reported in "Percent points" or numerically —one hundred times the ratio of average strength units observed divided by the average basis weight (25 x 40,500) of the air dried (at 65 percent R. H. and 70 deg. F.) test sheets.

Bursting strength, tearing strength, folding endurance and tensile strength shall be reported in this manner. Percent stretch shall be reported as in the official method for determining stretch of paper.

As executive committee advisor for our pulp evaluation committee, Allen Abrams, on October 17, made the following timely suggestion, "I believe right now that, with the information we have in the literature, your committee can do a very excellent job by drawing up one or two tentative methods for pulp testing." Through the untiring efforts of Messrs. Rothchild and Lundbeck, we have formulated a set of testing specifications for the Beater Method (Section V of the above outline) that with a few minor alterations has met with the approval of eleven of our twelve Committee members. This proposed method while not a complete and self contained unit in itself will, if adopted as a tentative standard method, constitute an important link in the triple group of pulp testing procedures which we hope eventually to develop and establish as the standard testing methods of Unitied States and Canada.

Pebble Mill Method

Our next step shall be to tackle the pebble mill method of processing fiber (Section IV of the above outline). Following this, the initial strength test of Genberg and Laymon which was adopted as a tentative standard method two years ago shall be revised as deemed necessary (Section III of our working program).

By the time that revision is completed it is hoped that our Committee will have developed and adopted by a two-thirds vote some suitable wording for Sections I, II, VI and VII. As a matter of fact, two-thirds of our Committee members has decided by questionnaire what the precise wording shall be for Sections VI and VII. Our preference has been reached by a scant majority, but not by the necessary two-thirds vote as to the text for Section I. We sincerely trust that by this time next year all seven sections will have been prepared and "put over" according to TAPPI regulations as vital elements of a triple headed set of optional tentative standard pulp testing methods.

Preparation of Hand Sheets

During the past few months our Committee has made the following important decisions (by at least a two-thirds vote in the affirmative) concerning details of how to make up standard test sheets:

A. We prefer to leave the size of sheet area open to some latitude and recommend as Mr. Genberg's Committee did three years ago (Technical Association Papers X, p. 117, June, 1927) that test sheets may be made of any size within the limits of 36 square inches and 81 square inches in area.

B. A standard basis weight of approximately 120 pounds (air dry ream of 25 x 40—500) should be adopted for sheets made in the "unbeated" or "initial strength" test.

C. In the making of the pebble mill and beater tests where the development of maximum bursting strength is attempted the standard basis weight of test sheets shall be within the range of 50 pounds to 60 pounds (air dry per ream of 25 x 40—500).

These three decisions are of great help in enabling our Committee to tackle Section II of the working outline with a confident feeling that the necessary two-thirds majority in favor may be obtained in spite of the wide variation in present practice for each of these variables. Until just recently it was feared that an uncompromising attitude might be encountered concerning these presumably minor details which might act as a stumbling block or obstacle in arriving at the adoption of *any* type of pulp testing procedure.

Fortunately this apprehension has been pushed aside by the members of our Committee in a spirit of self sacrifice. We all recognize the unfortunate situation which faces the members of our Association. If we all decide to alter our equipment and modify our operating routine in testing pulp to conform with the forthcoming tentative standard method or methods, many of us shall be obliged to discard some pet machines and methods and spend company money for new units much to our regret.

Most of us are like delegates to a limitation of naval armament conference. We see no good reason for our neighbors not discarding or "junking" their old, inefficient or obsolete units and replacing them by units to match the ones we have. It is human nature to never see ourselves as others view us. However, in spite of all the odds that are pitted against the standardizing of a control or research chemist's most costly array of equipment, the writer is encouraged in the belief that our TAPPI membership will receive the present and future tentative standard pulp testing methods with the same spirit of leniency and self sacrifice that has marked the deliberation of my fellow committeemen during the past year.

British Evaluation Method

The most significant development abroad during the past year in the field of pulp testing equipment and methods has been the publication in October, 1929, of a 121 page book entitled, "Interim Report of the Pulp Evaluation Committee to the Technical Section of the Paper Makers' Association (of Great Britain and Ireland)." The writer takes this opportunity of publicly thanking the Chairman of that Committee, Mr. Arthur Baker, for having provided the Corresponding American Committee with a copy of this book.

We are not convinced that their units of testing equipment rep-

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., February 19, 1930.

[1] Asst. to gen. mgr. U. S. Rubber Co., Fibre Products Dept., Cleveland, Ohio.

resent distinct improvements over corresponding ones now available in the United States and Canada. However, Mr. Baker's Committee is to be complimented on the thorough manner in which they have experimentally investigated every phase of the initial strength of pulp testing procedure with the apparatus of their design. It is a pleasure to see in this treatise (undoubtedly the first of its kind ever published in book form by any individual or society) a well written and illustrated method of pulp testing, supplemented by detailed accounts of carefully planned and conducted research studies that served in establishing the optimum conditions for each feature of the finally adopted procedure.

One component part of the proposed British procedure is the making of pulp freeness tests by means of the Canadian Standard Freeness Apparatus. It is unfortunate that technologists in the United States are restrained from further using this carefully standardized unit, owing to an adverse patent infringement decision (made in recent months) against the Green equipment. The quality of *freeness* in pulp is a factor which merits observation simultaneously with that of the strength characteristics, during a processing operation by means of the pebble mill or beater. For this reason our Committee should take steps to adopt some other type of apparatus and a detailed method for using it in measuring this rather vague but important physical quality in a pulp known empirically as *freeness*.

Soda Soluble Test for Cotton Degradation*

By B. K. Steadman[1]

A few years ago the solubility in boiling 10 percent caustic potash was quite a popular test for cotton degradation. Later the test was modified to use the equivalent of caustic soda or 7.2 percent. This test entered into the specifications of many purchasers of cotton and linters. Intensive development of the alpha test mostly in connection with the rayon industry turned the attention to that test. Although the soda soluble test provides for boiling the sample for three hours in 7.2 per cent caustic soda, the alpha test provides for immersion for 20 minutes in 17.5 per cent caustic soda at 20 deg. C.

Bond Papers

The data in the table below was prepared to bring out the relative values of these two tests as applied to commercial bond papers. Alpha determinations numbered 1 and 2 and soda soluble tests were made in the laboratory of the Standard Paper Co. in Richmond, Va.. Method No. 1 is that of a large rayon manufacturing concern and No. 2 is recommended by the Division of Cellulose Chemistry of the American Chemical Society, (see Industrial & Engineering Chemistry, vol. 1, No. 1 p. 52, Jan. 15, 1929.) Alpha determination No. 3 and other determinations of the table were made in the laboratory of the Rag Content Paper Manufacturers in Springfield, Massachusetts.

Sources of Error

It will be seen that the alpha results are very varied and in some cases methods 1 and 2 check very closely although on other samples there are large discrepancies. We did not grind our samples and therefore feel that the error in alpha was due at least to a great extent to this fact. However, the methods for alpha cellulose are for cotton and wood pulp and even when paper is ground before making the alpha test, on very hard sized papers, there is a question in my mind as to the accuracy of alpha determinations.

Value of Test

In commenting on my results, Miss Minor writes as follows: "In looking over the data on the attached Table I feel quite enthusiastic over the value of the soda soluble test for this grade of papers. It very nearly approaches the sum of the nonalpha constituents of the paper in the case of new all-rag furnishes and with paper of less strength it seems to increase over the nonalpha constituents of the paper proportional to the fiber strength. Possibly, if a weaker alkali were used which did not disturb the sulphite fibers any more than the new rag fibers, the soda soluble might give all the information of the alpha content with much less work.

Allowance for Glue and Rosin

"You will note that our alpha content numbers are regularly higher than yours. This is partially due to the fact that in our calculations we make allowance for the glue and rosin present as well as for the usual moisture and ash contents. If you care to use our figures for glue and rosin content and recalculate your work, I feel sure that in the majority of cases there will be a very close concordance between the two methods. The variations found in the three sets of alpha test illustrate very nicely the possibility of the variation with that test as you suggest in your letter."

Method of Testing

All of our Alpha tests were calculated on the bone dry basis but no allowance was made for size, glue, starch, etc. The standard method for soda soluble was used. Two grams of samples were weighed out, treated with 100 cc of 7.1 per cent caustic soda, put into reflux condenser and boiled for three hours over a steam bath. Soda soluble was figured on the dry basis.

* Presented at annual meeting of TAPPI, Feb. 19, 1930, Pennsylvania Hotel, New York, N. Y.

[1] Chief chemist, Standard Paper Manufacturing Company, Richmond, Va.

CHEMICAL TESTS UPON COMMERCIAL PAPERS

Sample No.	Furnish	Glue sizing	Rosin sizing	Alpha content No. 1	Alpha content No. 2	Alpha content No. 3	Soda soluble	Non-Alpha content [5]	Copper number	Acidity as H_2SO_4	pH value
1	New rags	3.58%	1.67%	95.27%	97.40%	98.39%	6.54%	6.36%	.62	.071%	4.53
2	New rags	8.60	.91	88.40	90.97	95.51	15.23	14.00	.88	.250 [2]	4.40
3	New rags	2.19	1.23	96.13	97.05	95.04	7.55	7.38	.77	.076	4.59
4	New rags	3.69	1.95	93.11	94.20	97.62	9.65	8.02	.77	.100	4.51
5	New rags	4.41	1.56	86.85	96.10	92.45	12.59	13.52	1.05	.093	4.61
6	New rags	2.98	1.55	86.94	90.20	97.58	4.37	6.95	.65	.085	4.47
7 [3]	New rags	none	1.56	81.04	96.50	97.86	4.68	3.70	.61	.032	4.57
8	Worn rags	2.56	1.57	96.89	92.60	84.13	18.27	20.00	2.59	.125	4.51
9	Sulphite pulp	1.66 1.47 [4]	.56	92.04	91.20	89.07	12.44	14.62	1.02	.032	4.57
10	Sulphite pulp	1.25 [4]	1.27	93.19	92.90	92.51	10.23	10.01	.93	039	4.50
11	Sulphite pulp	none	1.93	83.12	83.40	85.60	21.92	16.33	2.25	027	4.65

Note: Alpha content Nos. 1 and 2 are tests made by B. K. Steadman. Alhpa content No. 3 tests were made by Miss Minor.

[2] Mainly in glue size.

[3] Same paper as No. 6 taken before the tub sizing.

[4] Starch used in tub sizing.

[5] This is the sum of non-alpha cellulose, glue and rosin.

Measurement of Pollution in Sea Water*

By H. K. Benson[1]

The increase in the number of pulp mills on the Pacific Coast has brought about the necessity for studying the effect of sulphite waste liquor on the adjacent arms of the sea and the tidal streams into which it is discharged. In locating these mills upon the shores of bodies of sea water, it was felt that no possible damage to marine life would be encountered due to the constant stage of the water level, its volume and the constant diluting action of the ebb and flow of the tide. During the last two years, however, complaints have come from various branches of the fisheries industry that the introduction of the waste liquor from sulfite mills was detrimental to its products. The value of fisheries products in the state of Washington amounts to $15,000,000 to $20,000,000, annually, of which $350,000 to $400,000 is derived from oysters and shellfish. It can be readily understood therefore that any depreciation in the annual production of these products would seek for causes and the presence of sulphite liquor in these waters would naturally raise an inquiry as to its possible harm to fish life.

In the case of the oyster industry, the fear of harm from sulphite liquor is especially noted due to the immobility of the oyster except during a very brief period in spawning when the larvae are free swimming. To protect these beds the State Bureau of Fisheries, in a cooperative way, approved a disposal system at one of the mills whereby the sulfite liquor was pumped through a pipe line into storage tanks and discharged on an ebb tide into a channel at a distance of five or six miles from the oyster beds which are located in a large but rather shallow bay.

During the years 1927 and 1928, the formation of young oysters from spawning was notably deficient in all oyster beds of the State and in British Columbia and this deficiency was attributed by some to the changes in the composition of sea water due to sulfite waste.

The writer has been engaged in a study of sea water composition in the vicinity of one of the mills to ascertain to what extent,

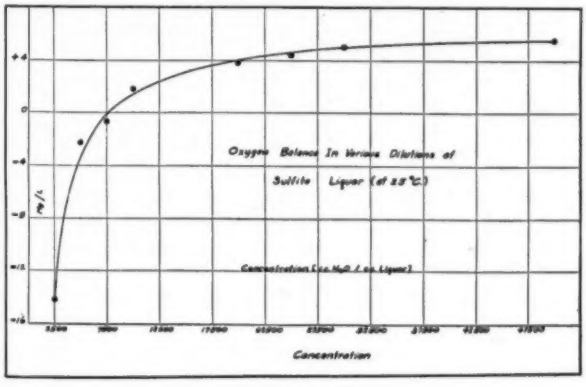

FIG. 1.

if any, the sea water is modified and to maintain a control over the disposal plant in preventing any congestion or concentration of the waste liquor in water adjacent to the oyster beds.

Sea Water Characteristics

The problem of detecting and measuring sulfite liquor in sea water is complicated by numerous factors not encountered in fresh water pollution. It is alkaline; it has a salt content; it contains a greater and more diversified content of organic matter; it is the repository of drainage from a very large area and its balance of vegetable and animal life is entirely different from that in fresh water. It is evident that the usual determinations made for the presence of fresh water pollution such as the measurement of chloride, nitrogen and oxygen consumed will not be applicable to

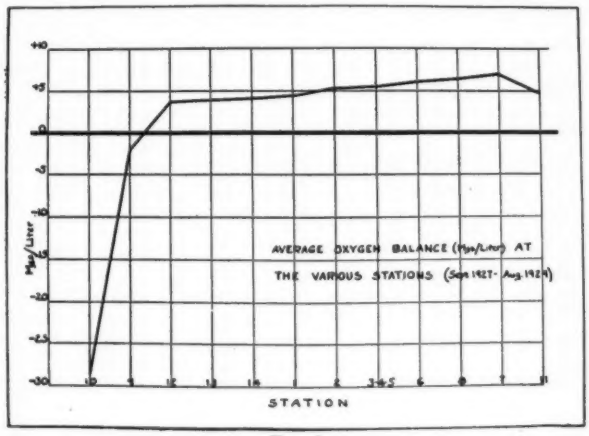

FIG. 3.

Graphic representation of pollution at various sampling stations.

the detection of sulfite liquor. Seasonal and tidal variations in alkalinity and oxygen values are much greater than the possible effect of the sulfite liquor after its dilution in sea water on these values.

An Approach to the Problem

There are a number of approaches however to the problem.

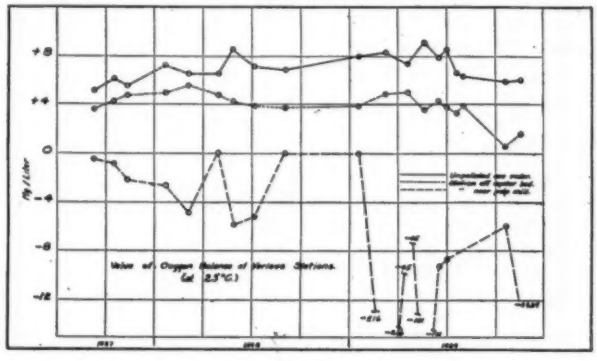

FIG. 2.

The principal component of sulfite waste is calcium ligno sulfonate. It would seem logical that analytical procedure to determine to what extent sulfur and calcium in the total solids of sea waters might disturb the normal ratio in which these elements normally exist in sea water. It has been found by Thompson[3] that the value

$$\frac{SO_4}{Cl}$$

of the sulfate chloride ratio is 0.1396 for Puget Sound sea water. Hence higher values might be indicative of the sulfur contained in the polluting matter. In dilution studies as well as in field studies in localities known to contain sulphite waste it has been found that such increase can be experimentally obtained in con-

* Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, Feb. 20, 1930.

[1] Member TAPPI, Professor of chemical engineering, University of Washington, Seattle, Wash.

[3] Thompson, T. G.: Pub. P. S. Biol. Sta., Vol. 5, pages 277-292 (1927).

centrations of one part of sulphite liquor in 1000 parts of sea water, but not in lesser concentrations. Hence it is not a sensitive method of detection. The disturbance of the calcium-chloride $\frac{Ca}{Cl}$ or calcium-magnesium $\frac{Ca}{Mg}$ ratios now under fuller investigation also does not promise to be sufficiently sensitive for practical use. Greater sensitivity was found in the use of an "oxygen balance" determination similar to that used in sewage work.

The oxygen demand of sulphite waste has been frequently determined. In sea water however, sewage from cities, organic matter from land drainage and marine organisms also create a demand, which in any given point remote from local contamination should be fairly constant. Hence by incubating a sample of sea water and subtracting its dissolved oxygen from that initially contained we have a measure of oxygen required to oxidize the organic matter in the water by biologic processes. This oxygen demand, may be subtracted from the original dissolved oxygen to yield the excess or residual oxygen, which in this paper is known as the oxygen balance. The sensitivity of the oxygen balance is shown in the following dilution studies:

Concentration of waste liquor per cent	Dissolved oxygen mgs/liter	Oxygen balance mgs/liter	Chlorides mgs/liter	Sulfates mgs/liter	$\frac{SO_4}{Cl}$ ratio
2	0	...	Unable to see end point	2,442	.....
1	0	...	15737	2,329	0.1480
0.5	0	...	15792	2,280	0.1444
0.1	4.11	—39.9	15821	2,240	0.1416
0.01	5.37	—16.6	15831	2,227	0.1407
0.001	6.87	6.12	.....	....	.....
0.000	6.86	7.18	.....	....	.....

Based upon the original oxygen content of the stabilized sea water used for the dilution, the sulphite waste liquor had a 5 day oxygen demand at 25 deg. C. of 30,000 mgs/1. The value of the oxygen balance is obtained by using the factor 0.68 as the percentage of oxidation occurring in 5 days. Hence the 5 day demand divided by 0.68 will give the oxygen required for complete oxidation of the organic matter contained in a given dilution. Similar dilution studies were made on a sample of waste liquor obtained just prior to the blowing of the digester. The specific gravity of this sample at 25 deg. C. was 1.053. Its total solids were 117,628 mgs/1, the volatile solids 96,532 mgs/1 and the oxygen demand 33,000. The following results were obtained at 25 deg. C.:

Concentration 1 part liquor in	Dissolved oxygen mgs/liter	5 day demand mgs/liter	5 day demand 0.68	Oxygen balance
0.0 parts sea water.....	7.26	0.0	0.0	7.26
0.0 parts sea water.....	6.36	0.2	0.3	6.06
100,000 parts sea water.....	7.46	1.11	1.63	5.83
100,000 parts sea water.....	7.46	1.23	1.81	5.65
50,000 parts sea water.....	7.32	1.19	1.75	5.57
50,000 parts sea water.....	7.32	1.19	1.75	5.57
25,000 parts sea water.....	7.29	1.84	2.71	4.58
25,000 parts sea water.....	7.29	1.92	2.82	4.47
20,000 parts sea water.....	6.43	1.77	2.61	3.82
10,000 parts sea water.....	7.09	3.40	5.00	2.09
10,000 parts sea water.....	7.09	3.55	5.22	1.82
10,000 parts sea water.....	6.30	2.63	3.86	2.44
7,500 parts sea water.....	6.81	5.09	7.49	—0.68
7,500 parts sea water.....	6.81	5.22	7.68	—0.87
5,000 parts sea water.....	6.73	6.19	9.10	—2.37
2,500 parts sea water.....	5.66	13.2	19.4	—13.7
2,500 parts sea water.....	5.58	13.0	19.1	—13.5
1,000 parts sea water.....	4.53	33.0	48.5	—44.0
500 parts sea water.....	2.73	66.0	97.0	—94.2

From the above dilution studies the effect of sulfite liquor on the oxygen content of sea water (Fig. 1) is noticeably marked in dilutions as low as 1 part in 50,000, but the sulphate content is not discernible by analytical means until a concentration of 1 part in 1000 is reached. Furthermore a negative balance is obtained at a concentration of 1 part in 7500. The depression of the oxygen balance may therefore be taken as an index of the measure of pollution as shown in the following table:

Dilution of waste liquor	Depression oxygen balance mgs/liter	Oxygen consumed by biologic processes per cent
1 to 50,000.....	1.72	23.0
1 to 25,000.....	2.76	38.0
1 to 10,000.....	5.11	72.0
1 to 7,500.....	7.58	111.0
1 to 5,000.....	9.10	135.0
1 to 2,500.....	19.4	342.0
1 to 1,000.....	48.5	1070.0

In applying this test to sea water samples, it is evident that the decreased oxygen balance of sea water from locations remote from sulphite waste contamination must be accounted for by the oxidizable matter normally present in the sea. Bodies of water upon which pulp mills are located also contain sewage and other industrial waste which further depress the oxygen balance. The depression of the oxygen balance may therefore be regarded as due to a summation of normal organic matter of unpolluted sea water, of municipal sewage and of industrial waste.

In this investigation the effect of these various factors over a period of 2 years is evidenced by the following average values:

	Unpolluted sea water	Station off oyster beds	Station near pulp mill
Dissolved oxygen, mgs/1.....	8.36	5.70	3.00
Oxygen balance, mgs/1.....	7.05	3.91	—13.53
Depression of O_2 balance, mg/1.....	1.31	1.79	—16.53
Biologic O_2 consumed, per cent.....	15.6	31.4	551.0

It is known that the first set of figures represent oxygen values unaffected by sulphite waste. The station near the pulp mill on the other hand contains considerable quantities of sulphite waste, but bacterial samples from this station always give a positive score of 4 to 14 (B coli in 5cc.). With these two sets of values before us it now remains to assign a sulphite waste liquor content to the station off the oyster beds. As the bacterial count is low (.3 to .4 B coli in 5cc.) the presence of sewage may be disregarded. The normal depression ot oxygen due to biological processes deducted from 31.4 per cent leaves an excess of 15.8 per cent of oxidizable organic matter which if sulphite liquor corresponds to a dilution of one part in 50000, or less. It might be held that the lower oxygen values at this station are also due to sulphite liquor but in the case of a shallow bay such values are always lower than in the larger bodies of the sea and were notably so, before the pulp mill was in operation. At the pulp mill, the concentration of sulphite waste reaches to 1 part in 2000 or greater.

These estimates are of course based upon mean values and do not take into account variations caused by special conditions of tide, wind, climate and changes in methods of disposal. In Fig. 2 is shown the variation which occurs at these times.

It is of interest to study values obtained very recently by daily observations. These were made on alternating tides and in each case the sampling device was placed on the bottom. The values are given in the following table:

OXYGEN BALANCE STUDIES MADE FROM 5 DAY DEMAND VALUES AT 20 DEG. C.

		Pulp mill		Oyster bed No. 1		Oyster bed No. 2		Oyster bed No. 3	
Date	Tide	O_2 balance, mgs/liter	Biologic O_2 consumed, per cent	O_2 balance, mgs/liter	Biologic O_2 consumed, per cent	O_2 balance, mgs/liter	Biologic O_2 consumed, per cent	O_2 balance, mgs/liter	Biologic O_2 consumed, per cent
1-12-30	Low	4.68	32.2	5.35	20.0	6.10	11.0	6.02	13.1
1-14-30	High	3.76	50.0	6.10	14.0	5.36	28.8	5.85	23.7
1-15-30	Low	—0.08	100.0	5.46	30.7	6.22	35.7	5.94	22.4
1-16-30	High	0.66	92.2	6.57	24.4	6.58	27.0	6.81	21.0
1-17-30	Low	3.89	50.0	3.92	58.8	7.34	25.0	7.43	23.0
1-18-30	High	4.04	52.5	6.67	26.0	6.83	25.0	6.07	31.6
1-19-30	Low	—0.16	102.0	7.03	22.1	7.00	24.8	7.08	24.0
1-20-30	High	4.65	45.0	6.75	30.0	7.19	22.6	6.59	24.0

With the exception of a single value obtained over Oyster Bed

No. 1, it is found that no concentrations of sulphite liquor can exist in any of these beds at the time of sampling in quantities other than those represented by very high dilutions. In the case of the high value mentioned, the result is not checked by the other analytical data.

Summary

1. For the detection of waste sulphite liquor in sea water, the residual oxygen or oxygen balance has been found very sensitive. By establishing oxygen balance values for nearby unpolluted sea water, a measure of the quantity of pollution may be made in adjacent polluted areas.

2. It affords a quantitative method for evaluating the extent of pollution in a given area and enables a graphic representation of the relative conditions in such an area to be made. Fig. 3.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Method and Apparatus for Saturating Roofing Felt. R. T. Johnston assignor to the Flintkote Co. U. S. pat. 1,698,886, Jan. 15, 1929.—In order to overcome the trouble caused by moisture and air in the felt, the heat of the asphalt is utilized to expel the moisture and the asphalt is driven into the felt by repeated treatment under pressure, alternating with subjecting the felt to vacuum. This also permits of using an asphalt of higher melting point, e. g., a blown asphalt, both for impregnating and for coating. The apparatus used consists of an open tank containing the molten asphalt, in which is placed a vacuum chamber. The felt passes from the open tank into the vacuum chamber and out again into the tank through press rolls which are set close enough together that they practically seal the chamber from the tank, which enables the rate of feed of asphalt into the vacuum chamber to be so regulated that it is unnecessary to provide a chamber of the height of a column of asphalt equal to the barometric height due to the vacuum. Inside the chamber the felt passes upwards, around a roll which is some distance above the level of the asphalt, down through a press which is immersed in the asphalt, up around a second roll above the level of the asphalt, down again and out through the outlet press. The top press rolls can be raised and the upper rolls in the chamber can be lowered, so that in threading the felt through the machine it passes in a practically straight line; and the rolls are then restored to their normal operating positions.—A. P.-C.

Apparatus for Forming a Relatively Thick Sheet of Coarse Fibrous Material. J. J. Hinde assignor to The Hinde Products Co. U. S. pat. 1,699,487, Jan. 15, 1929.—The forming vat receives the stock from a pressure box at a considerably higher level so as to produce a fairly high head. In the forming vat is the cylinder mold having an endless traveling wire wrapping around the greater part of its circumference. The wire enters the vat at the top of the cylinder mold. As the wire leaves the cylinder mold, the layer of felt stock is on the lower surface of the wire and is supported on a lower endless traveling wire. The space between the two wires gradually narrows down as they travel away from the vat, and rolls are provided above and below them to press the excess moisture out of the sheet. The apparatus is particularly designed and adapted for making sheets from long and short fibers of coarse or woody material, such as shredded corn stalks, and even including the pith, leaves, stalks, cobs and roots. —A. P.-C.

Apparatus and Method for Packaging Paper. W. C. Ludwig assignor to The Mead Pulp and Paper Co. U. S. pat. 1,696,008, Dec. 18, 1928.—Stacked sheets of paper are held together under heavy compression during shipment by means of a substantially rigid metallic band encircling the stack and bearing upon its upper and lower surfaces. Skids are secured to the metallic band to maintain the lower part of the frame and the stack a sufficient distance above the ground to receive an elevating truck thereunder. —A. P.-C.

Paper Roll Wrapping Machine. G. Meyer-Jagenberg. U. S. pat. 1,663,554, March 27, 1928; Paper Trade J. 88, No. 4, 49-50 (Jan. 24, 1929).—The entire combination of driving means, winding-off and glueing mechanism is disposed below the working table, which is on a level with the winding means, and the raising into working position of the rolls to be wrapped up is effected simultaneously with the letting down of the wrapped-up rolls and by the utilization of the weight of these rolls.—A. P.-C.

Slime Control With Chlorine and Compounds of Chlorine. C. M. Baker, American Paper and Pulp Association, Madison, Wis. Paper Trade J. 88, No. 2, 50-52 (Jan. 10, 1928).—Concrete examples are given of the manner in which slime trouble was eliminated in 12 mills manufacturing various grades of paper and board by judicious use of chlorine. A review is given of the literature dealing with slime in pulp and paper mills. The author concludes that chlorination is practical, effective and apparently inexpensive for a given operation, but that, owing to differences in the conditions existing in different mills, each mill is a separate problem and should be studied individually.—A. P.-C.

Mixing Tank. J. A. White assignor to G. Collins. U. S. pat. 1,696,994, Jan. 1, 1929.—The lower portion of the tank is cylindrical, and the remainder tapers slightly, the smaller diameter being at the top. Extending vertically through the center of the tank is a shaft mounted in a step bearing resting on the bottom of the tank and covered with a plate that is beveled towards the periphery. On the lower end of the shaft is a worm surrounded by a fixed cylinder spaced some distance from the bottom of the tank, the cylinder being supported by four arms bolted to the body of the tank.—A. P.-C.

Power

Equipment for Burning Wood Waste. H. A. Hatfield. Pulp Paper Mag. Can. 27, 3-8 (Jan. 3, 1928).—A description of some of the modern equipment available for the cleaning of wood and the preparation and burning of wastes in pulp and paper mills. —A. P.-C.

Electric Power in Paper Mills. Otto Kessler. Papier 31, 1927-1311 (Dec. 1928).—An address discussing the merits of electric drives and their advantages over mechanical drives.—A. P.-C.

Pumps and Pumping Practice. Reginald Trautschold. Paper Trade J. 88, No. 5, 50-58 (Jan. 31, 1929).—A discussion of the relative merits of suction (plunger) and centrifugal pumps for the various types of service encountered in pulp and paper mills. —A. P.-C.

Lubrication and Lubricants. Reginald Trautschold. Paper Trade J. 88, No. 3, 48-56 (Jan. 17, 1929).—A discussion of the troubles and expense caused by poor and improper lubrication in pulp and paper mills and of the procedure to be followed in order to reduce lubrication costs to a minimum.—A. P.-C.

Steam Superheaters and Fuel Economizers. Reginald Trautschold. Paper Trade J. 88, No. 1, 46-52 (Jan. 3, 1929).—A brief

general discussion touching briefly on the general types of steam superheaters and fuel economizers, followed by concise descriptions of a few paper mill power plant applications.—A. P.-C.

Modernizing Power Plants. Walter N. Polakov. Paper Industry 10, 1768-1770 (Jan. 1929).—A brief description of the manner in which the steam power plant of the Champion Fibre Co. was enlarged and modernized so as to reduce the amount of purchased electrical power, increase the operating economy and efficiency, and accomplish this without loss of exhaust steam.—A. P.-C.

Ball and Roller Bearings. J. T. Sayers. Paper Maker and Brit. Paper Trade J. 77, 130-133 (Feb. 1929); World's Paper Trade Rev. 90, 2094, 2096, 2154, 2156 (Dec. 21) 2169-2174 (Dec. 28, 1928).—A brief discussion of their merits and applications in pulp and paper mills.—A. P.-C.

Boiler Water Conditioning. Reginald Trautschold. Paper Trade J. 88, No. 7, 38-46 (Feb. 14, 1929).—A review and presentation of suitable equipment aids and practices in boiler water treatment, and of feasible and practical methods which are bound to react decidedly to the advantage of those mills which have installed or will adopt them. Citations are also presented of specific economies which have been realized in paper mill plants where various phases of the problems have been given suitable attention.—A. P.-C.

Steam Accumulator. P. Marchand. Etablissements Schneider. Papier 32, 31-39 (Jan. 1929).—A description and discussion of changes made in the regulating system of the Ruths steam accumulator at the Mayen straw pulp mill, Venette, (Oise), which were necessitated by modifications in operating conditions at the mill.—A. P.-C.

Paper Mill Steam Plants Keep Up With the Times. Martin Frisch and F. W. Heller. Combustion Engineering Corporation, New York. Paper Trade J. 88, No. 8, 137-141 (Feb. 21, 1929).—A discussion of the merits of pulverized fuel firing.—A. P.-C.

Pulverized Coal Firing. Reginald Trautschold. Paper Trade J. 88, No. 9, 26-34 (Feb. 28, 1929).—A discussion of the chief requirements for an economical system of pulverized coal firing, citing the experience of some mills with such systems.—A. P.-C.

Terry Steam Turbine. L. E. Trotter. Terry Steam Turbine Co. Paper Mill 52, No. 7, 5-8 (Feb. 16, 1929).—A brief outline of the development of the Terry steam turbine and of its application to the driving of paper machines.—A. P.-C.

Miscellaneous

Mill Water Supplies and Waste. C. M. Baker. American Paper and Pulp Association. Paper Mill 52, No. 8, 40, 44, 176, 178 (Feb. 23, 1929); Paper Trade J. 88, No. 12, 64-66 (March 21, 1929).—From a discussion of the relation between white water utilization and quality and quantity of the mill water supply, the author concludes: (1) The circulation and utilization of white water directly affects water supply developments and purification in that it materially reduces the amount of fresh water required, thus resulting in a substantial saving in pumping costs, capital investment, and the cost of treatment. (2) The first step in any water supply development or improvement should involve a careful study or survey in white water utilization in order to reduce the quantity of water necessary to a minimum. (3) Reduction in water consumption correspondingly reduces the volume of wastes that it is necessary to discharge into water courses, thus improving stream conditions, and should this improvement be inadequate, the cost of treatment of the residual wastes would be proportionately less.—A. P.-C.

Sizing

Sized Xanthated Cellulose Fiber. W. W. Carter. U. S. pat. 1,693,573, Nov. 27, 1928. Fiber such as ordinary paper stock is permeated with a rosin size or other suitable sizing material prior to xanthation and subsequently xanthated. The product is suitable for use in making a waterproof paper.—A.P.-C.

The Delthirna Sizing Process. R. de Saint Hilaire. Pulp Paper Mag. Can. 27,691,693,706 (May 9, 1929). Application in mill operations of the process, which consists essentially in treating lump rosin with a dilute caustic soda solution (about 15 g. per l.) at not less than 15°C., has shown that it automatically gives a size solution of practically constant composition without requiring any attention other than filling the rosin towers, and superior sizing is obtained with an approximately 20 per cent lower rosin consumption.—A. P.-C.

Dyes and Dyeing

Colors for Wall Papers, Etc. J. Ehrenwerth. Belge. pat. 353,812, Sept. 30, 1928. The colors are diluted with a solution of alkaline silicate to which is added a salt to render it more fluid (e.g., potassium chromate or potassium dichromate) and glycerol. —A.P.-C.

Mechanism for Coloring and Etching Paper Webs, and Method Thereof. H. Palm. U. S. pat. 1,702,268, Feb. 19, 1929.—The paper is passed over a roll having a soft and liquid-absorbing coating with patterns formed therein. The roll is placed over another roll rotating partly immersed in a bath of a color solution and provided with a liquid-carrying winding on its surface. —A.P.-C.

Production of Different Tints on Paper. Pacific Northwest Paper Mills. Eng. pats. 295,778, and 295,779, May 30, 1927. A number of different tints from a single dye are produced on paper by passing it through a dye bath, subjecting different portions of the paper to different degrees of pressure, again passing the paper through the dye and finally drying it.—A.P.-C.

The Tinting and Coloring of News Print. E. W. Camp, National Aniline and Chemical Co. Pulp Paper Mag. Can. 27, 657 (May 2, 1929); Paper Mill 52, No. 14, 24 (April 6, 1929); Paper Ind. 11, 88 (April, 1929). A brief discussion of the procedure of tinting and coloring news print and the precautions which should be taken.—A.P.-C.

The Coloring of Paper. M. Gottlöber. Papier-Fabr. 26, 557-81, 630-3, 679-81, 710-12, 783-7, 799-801, (1928); 27, 3-8 (1929). The Ostwald color theory is explained and its use as an acid in the coloring of paper pulp is described. It offers a means of describing any color quantitatively, in such a way that the dye or combination of dyes necessary to duplicate that color may be determined. In addition, the behavior of common dyes in the beater is discussed, and the best practical methods for obtaining definite effects with these dyes are described. The original must be consulted for details.—R.H.D.

Coating and Filling Materials

Moisture Content of English Coating Clays. R. M. Cobb and Donald V. Lowe. Lowe Paper Co., Ridgefield, N. J. Paper Trade J. 88, No. 11, 56-57 (March 14, 1929). Clays received in America with a moisture content above 9 per cent cannot have picked up moisture in crossing the Atlantic, because clays dry out in an atmosphere of 100 per cent relative humidity to a moisture content of 9 per cent or less. No injury to coating clays results if they are heated to 105°C. to drive off all water. The difference between the moisture content of wet and previously dried clays at the same relative humidity results from drying out of the capillaries and increasing the radius of curvature of the liquids in the capillaries.—A.P.-C.

Method of Testing Clay, Talc and Agalite. D. D. Uong. Fitchburg Paper Co., Fitchburg, Mass. Paper Trade J. 88, No. 11, 55-56 (March 14, 1929). A description of the proposed official TAPPI methods.—A.P.-C.

Proposed Method for Testing Casein. Elbert G. Milham. Bryant Paper Co., Kalamazoo, Mich. Paper Trade J. 88, No. 12, 55-56 (March 21, 1929). A description of the proposed official TAPPI method—A.P.-C.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Organizing the Accounts for Executive Control*

By Willard J. Schenck, C. P. A.[1]

I believe that we in accounting work have reached the point where it is necessary for us to critically examine many of our methods to see whether we have kept pace with the progress made in other departments of business. With this as a starting point, I propose to direct my talk along the lines of

1—What the true function of accounting is.
2—The characteristics of modern business in its demands upon the accounting departments.
3—The short-comings of much of the present-day accounting in meeting these demands.
4—What the accounting department should do to carry out its true functions in light of modern conditions.

To Render a Service to Management

The real function of accounting is to render a service to management. It is a means of executive control. This implies much more than the commonly accepted view of accounts as simply a means of recording what has occurred; accounting must be more than a means of providing a historical record of the past. Not only has accounting placed too much emphasis on the post mortem, but it has failed to show the result of the post mortem in such a way to guide executive action. Too often the primary objective has been merely to show the final operating result for a certain period and the financial condition at the end of the period. This merely shows what the final net results are. These results represent the sum total effect of the coordinate activity of the many departments of the business. These departments represent the division of the business along functional lines with the responsibility for the functions definitely fixed in the department heads. Thus the responsibility for the power producing function resides in the chief engineer in charge of the power plant and the executive responsible for the successful operation of the business is not so much interested in the total coal purchased, in total suppplies used, in total wages, in the total depreciation as he is in the cost of the power produced and its comparison with previous period power costs or in comparison with some predetermined standard of what the power cost should be. The cost of coal is of interest only in its relation to the cost of power. The amount of depreciation is of significance in its effect on power costs, its effect on the cost of providing the building, or in its effect on the cost of the various other departments of a business. The total wages paid is not especially significant. It is only when the wages are viewed in their relation to power cost, to the cost of maintenance, to the cost of operating the sales department, to the cost of purchasing and storing or to the cost of operating the various producing departments, that they become of true significance. In short, the executive administering a business is engaged in administering, controlling and coordinating a series of functions and if the accounts are to be a means of coordinating and controlling these functions they must be organized along the same functional lines. It is only when the accounts provide a classification of expenses according to the various services to production, according to the cost of operating the various producing departments or according to the cost of maintaining the sales department, that they provide a real means for judging and controlling performance and provide the factual data on the basis of which coordinated progress for future operation may be based. It is obvious that in an industrial plant any system organized along the lines of executive control must embody cost accounts, standards and budgets. The efficiency of the factors in production, administration, and distribution can be judged only when actual results are compared with standards of performance. Control of costs and expenses, and coordination of the various factors in business are prime essentials in successful administration. This implies costs for machines, processes, services to production and products; it implies standards of comparison in the form of budgets, standard costs, and standards of performance and production.

Development Along Well Defined Lines

The development of business in recent years has been along some very well defined lines, There has been a very marked and rapid increase in the size of manufacturing establishments. Quite recently there has been a very marked tendency toward placing a number of plants under centralized management, a consolidation and merging which has accentuated even the tremendous growth resulting from our rapid normal business progress. When a business is small the executive has an intimate knowledge of the various factors in the business which makes it possible to administer it with very little recourse to records. As the business increases in size, more and more functions must be delegated and the management must more and more confine itself to broad general policies. It becomes increasingly difficult to be in touch with the different functions and records must be relied upon to visualize the business as a whole, and to control and coordinate the various functions so that the whole business operates smoothly, every department working in relation to every other department toward a common objective. Many times the plants are a considerable distance from the main office which increases the burden of accounting in providing adequate control. Rapid progress in improved machinery and processes has increased production problems and placed the burden upon the accounting department of keeping the management informed as to relative costs under different methods and with different machines and processes. Rising costs and keener competition has focussed at-

* Presented before the Wisconsin Div. of the Cost Dept. of the American Paper & Pulp Assn., Green Bay, Wis., April 25, 1930.
[1] Asst. Professor of Accounting, University of Wisconsin.

tention on the elimination of waste and the adoption of the most efficient methods. When the margin of profit is large, there isn't quite the same incentive to keep close control over material, to see that the labor purchased is properly accounted for by being applied to production, or that factory expenses remain unabsorbed because of idle equipment as when the margin of profit is small enough to be wiped out by the slightest inefficiency or waste.

Failed to Keep Pace with Rapid Progress

Accounting has in many instances simply failed to keep pace with this rapid progress. Much of it reminds me of the old lady who got up in the ladies' aid meeting and said that although she was old and feeble, poor and sickly, blind and a little deaf, and although she had only two teeth in her head, thanks be to God they hit. Much of our accounting is certainly old and feeble. Nor is it to be denied that much of it is blind and deaf to the demands of management. About all we can say many times is "Thanks be to God it balances." Too much of our accounting is directed toward the preparation of income tax returns and the preparation of the conventional profit and loss statements and balance sheets. We have lived too much in the past with all our attention given to a record of what has happened, and that record has many times been based on a simple classification according to kind. As I have pointed out, expenses have a real meaning only when related to a service to production, or to the product itself. Past records are of value mainly as they represent a measure of performance in comparison with standards and as they aid in the formation of future policies.

If accounting is to serve its proper function as a tool of management in present day large scale business, with the attendant problems of coordinating many departments and many functions and often-times coordinating the activities of a number of plants at some distance from each other, it must provide, first, for a checking of past results according to functions; second, for a coordinated plan for the conduct of those functions toward the desired objective; and, third, for prompt reports showing how actual performance compares with the predetermined plans and standards. The first reaction which usually appears when a plan embodying the above points is mentioned is concerned with the additional effort required. Effort and expense required for the maintenance of adequate accounts must always be balanced against the results secured. I am sure that there are few executives in charge of the affairs of large businesses who do not realise the importance of records as an aid to the administering of the affairs of the business, and money and effort spent in keeping good records is usually well spent.

When Money and Effort Is Wasted

It is only when the accounting department fails to "point" its reports squarely at the problems of the executive, when reports drift in a month to six weeks behind time, or when they are purely historical and fail to provide data upon which to base executive action that the money and effort is largely wasted. It is encouraging to note, however, that more often than not the accounts reorganized to provide a maximum of executive control require less time than before the reorganization. It is not so much a question of the amount of information collected as of the kind of information. A functional classification of expenses, without destroying the classification according to kind, is very easily provided for by means of a few controlling accounts in the general ledger and a carefully planned system of standing orders. As an illustration, let us assume three departments, X, Y, and Z. Assuming only a few expenses to simplify the illustration, a system of standing orders may be set up as follows:

Kind of Expense	X	Y	Z
Supplies	1501	1601	1701
Supervision	1502	1602	1702
Helpers and laborers	1503	1603	1703
Repairs and maintenance	1504	1604	1704
Insurance	1505	1605	1705
Taxes	1506	1606	1706
Depreciation	1507	1607	1707

Thus the first digit in the number may be used to indicate that the item is chargeable against a service department, such as power or maintenance. Another block of numbers may be used for the producing departments, as for example, from 2000 to 2900 inclusive. The first digit, 2, would then indicate that the item was chargeable to a producing department and any number beginning with 1 or 2 would indicate that the item is factory expense or factory burden. The final digit or the last two digits of any number may be used to indicate the kind of expense. A similar system of numbers may be worked out for selling and administrative expense. No accounts for expense would be required in the ledger with the exception of controlling accounts for factory expenses, selling and general administrative expenses, and a separate account showing the total expenses for each department as accumulated on the standing order summary for that department. The standing order summary for each department may be a simple columnar statement with the columns headed with the numbers for the department. Thus the columns for department X would be headed 1501, 1502, 1503, etc. To find the total supplies charged to department X, it is necessary only to total column 1501. The total expense charged to department X may be found by a cross footing of all of the columns. To find the total supplies charged to all departments, a total may be taken of the columns, whose number ends with 1 on all standing order summaries. Single columns with corresponding code number columns may be kept in the voucher register, or whatever the central distribution record may be, for factory expenses, selling expenses and administrative expenses. The fewer number of columns required in the voucher register makes this record easier to handle than when a detailed distribution of expense is provided for. The general ledger, containing a few main controlling accounts rather than detailed expense accounts is also easy to handle. The summaries of standing orders are kept up day by day, showing at all times the cost of operating the various departments. The amount of the different kinds of expenses is readily obtainable by totalling the appropriate columns on the standing order summaries. It should also be observed that much of the work of distribution which is frequently left until the end of the month is done day by day on the standing order summaries, thus aiding in the securing of reports in time for them to be of use in checking policies and methods and making the necessary adjustments for the future.

Not Submitted As An Ideal

The system of standing order numbers is not submitted as an ideal. Others may, no doubt, be found which are equally effective. The purpose of this talk is simply to point out the principle involved. Although the illustration just explained is a very simple one, it illustrates what I mean by a functional classification of accounts. By means of standing order summaries it is possible to show the expense of operating each department. It is, therefore, possible to keep each foreman or department manager informed of the expenses of operating his department, which is the first step toward control of expenses. Moreover, the experience data which may be collected from the standing order summaries of selling and administrative expenses forms a real basis for the determination of departmental budgets.

This brings us to the final step in organizing the accounts for administrative control, namely projecting into the future or budgeting. I had intended to spend all of the time on this subject but your secretary said that you had already had several talks along this line, and I felt that I could serve you better if I made this simply a part of the broader subject of accounting as a means of executive control. Although a functional organization of accounts provides a means of checking departmental responsibility, it does so, much more effectively, if the actual results are compared with a predetermined budget. Moreover, the all important feature of coordination of the different departments of the business can be attained only by preparing a well balanced program in advance.

Production As Related to Sales

The plant must produce in relation to what can be sold and an attempt must be made to sell in sufficient volume to permit the plant to produce in its most efficient volume. The financial program must be arranged in relation to production, sales, collections, financing of additions and improvements, and so on. In other words, production, distribution, and financing must be coordinated in a well-balanced plan toward the desired objective of a satisfactory profit and a sound financial position.

Time will not permit a discussion of details with reference to organization for budgetary control, and I shall have to confine myself to the statement of a few broad general principles. As a first step in preparing a budget it is necessary to secure estimates and plans from all of the departments. This looks like an impossible task, but it is relatively simple if the accounting system has been properly organized to show, at all times, departmental costs and expenses. Estimates for the future must be based upon past results and the organization of the accounting system to provide experience data in the form required for future plans is foundational to budgetary procedure. I believe that much of the difficulty experienced in budgeting can be traced to the failure to place sufficient emphasis on the proper organization of the historical records as basis for a budgetary program.

When the estimates have been collected, they must be revised, adjusted and worked into a well balanced program for the business as a whole. At this point, production, distribution, and administration are coordinated.

The Final Step

As a final step, reports must be prepared which will show the deviation of the actual from the budgetary amounts. A budget to be really useful must be prepared according to functions and reports of actual performance must be prepared according to the same functions.

When the accounts have been organized on a functional basis, budgets and standards carefully determined on the basis of experience data, estimated and actual conditions faithfully compared, and all deviations carefully analyzed, I believe that the accounts will truly fulfill their function of

1—Coordinating the activities of the various functional departments.

2—Providing a basis for centralized control.

Hand-to-Mouth Buying in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., June 9, 1930.—Little change is seen in the paper situation here. Fine papers particularly those used in direct by mail advertising matter are in none too good demand and prices are relatively low, though there has been no marked change. The users continue their hand to mouth buying, which is not so heavy. The prospects for later in the summer, if the printers and advertising men here are to be believed, are considerably better than they were early in the spring. It is known some good advertising is in prospect and the printers are banking heavily on this feature of the future.

An interesting phase of the paper stock market locally developed this week. The Indiana Bell Telephone Company established a new dial exchange and issued the new books to some 65,000 subscribers with instructions that they were to use the old books until the first of the month. The old books were not to be collected. The school teachers aided by the parent teachers clubs promptly issued instructions to the pupils to collect their old books when the new ones went into effect and bring them to the different schools where they would be baled and the proceeds used for parent teacher club work. The local paper stock men are finding themselves with several tons of telephone books on an already over-glutted local market.

Demand for building papers has not been as good as desired. The volume just isn't in the cards. The prospects for fall are a little better, however.

Paper Demand in Boston Quiet

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 9, 1930.—The demand, as a whole, for paper in this market has been rather quiet during the last week, as far as new business is concerned. This condition is only seasonal, however, and the outlook generally appears favorable. In some quarters lithograph paper for use on candy boxes is particularly quiet. There is a fair activity in wrapping paper. Some of the dealers have expressed the hope that the price situation in kraft will liven up the demand a bit.

Somewhat varied reports are heard in the box board market, but the average condition appears to be fairly good. In certain quarters the news has reached board dealers that box makers expect more orders before long so that there will be a consequent demand for more material. Quotations remain unchanged.

Interest in paper stock still lags and if anything, prices are tending still lower, with some actual recessions. For the season of the year the demand does not seem to be normal. "'Mid-summer dullness in June," "no callers," "no events," are some of the remarks in the trade in regard to the market. There appears to be a surplus of material so that it is distinctly a buyers' market. Among the grades which have declined still further in prices are, under foreign rags, dark cottons, now quotable at 1.10 to 1.20, compared with a former range of 1.20 to 1.30, and old linsey garments, now at 1.40 to 1.50, compared with a previous range of 1.50 to 1.60.

Brown Paper Mill Co.'s Earnings Increase

Report of the Brown Paper Mill Company, Inc., for the year ended December 31, 1929, states that during the year the stockholders approved a plant of reorganization which involved the dissolution of The Brown Paper Mill Company, Inc., (Louisiana Corporation) and the formation of The Brown Paper Mill Company, Inc., (Delaware Corporation), all of which was consummated under date of July 31, 1929.

The operations of the two corporations for the year ended December 31, 1929, resulted in a net profit of $913,679.90, after deducting all charges, including depreciation, depletion, bond interest, bond discount and expense and Federal income tax as compared with a net profit of $456,606.18 for the preceding year, a gain of $457,073.72. During the year the company sold 51,553.35 tons of paper at an average selling price of $66.17 per ton, compared to sales for the previous year of 40,909.10 tons at an average selling price of $70.726 per ton. Operating profits increased 100.1 per cent over the previous year, even though there was a decrease in the selling price of $4.55 per ton.

Plans have been completed for the addition of two machines to the present production facilities which will give an estimated minimum daily output in excess of 350 tons of paper when the entire plant is in operation. All departments are to be increased in size in order to provide for the addition production requirements. New facilities of an mproved type are being installed in anticipation of a lower cost of product from the resultant economies. Supervision of the entire project has been accorded George F. Hardy, consulting engineer, of 305 Broadway, New York City.

Central Paper Company Ten Years Old

Continuity of service and ten years of great progress are the features of the appropriate announcement recently mailed out by the Central Paper Company of Newark, N. J. This concern was organized 10 years ago by Mr. Benj. S. Berkowitz.

By reason of its rapid growth, this firm now occupies 20,000 square feet of space, filled to capacity with standard mill lines.

During the ten years of progress, the founder of this concern has surrounded himself with a personnel of capable men and women, who are ever on the alert to do everything humanly possible to serve the trade efficiently and expediently.

Trade Mark Department

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The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, 900 F Street, N. W., Washington, D. C., trademark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

KLEENTAINER—Ser. No. 291,189. Herbert MacLean Ware, London, England. For paper, cardboard, waxed paper, waxed board, and waxed papier-mache, food bottles, boxes, cartons, trays, racks and baskets.

FILEX—Ser. No. 295,937. James Frank Dunleavy, Boston, Mass. For filing supplies.

KRAFTEX—Ser. No. 295,938. James Frank Dunleavy, Boston, Mass. For filing supplies.

"APRKIN"—Ser. No. 296,243. Genevieve Finlay Stewart, New York City. For paper aprons.

MARATHON BOND—Ser. No. 296,537. Marathon Paper Mills Company, Rothschild, Wis. For bond paper.

ALGAMYN—Ser. No. 293,356. Wickels Metallpapier-Werke Gesellschaft mit Beschrankter Haftung, Furth, near Nuremberg, Germany. For metal paper leaves and metal papers.

"DUO-LOX"—Ser. No. 297,241. The Cooke & Cobb Company, Brooklyn, N. Y. For paper binders.

BONCRAFT—Ser. No. 297,690. Mid-States Gummed Paper Company, Chicago, Ill. For gummed papers.

Improved "Matador" Bag Machines

H. H. Heinrich, Inc., of New York, are announcing important improvements in their line of paper bag machinery. Their "Matador" bag machines are now equipped with printing units for printing from one to three colors. Another new feature is an arrangement permitting the making of cellophane bags on this well-known machine.

In general design and construction, the new "Matador" is said to be even better than the older machines which have been so successfully and widely used in this country and abroad. An efficient chain gripper delivery has been perfected, eliminating the tapes. The machine is made in five different sizes, including the "Baby Matador," and each machine will handle a very wide range of bag sizes. The "Baby Matador," for example, will make bags from 1¾ inches wide by 2¾ inches in length, up to 7 inches wide by 11¾ inches in length, while the largest "Matador" has a range from 2¾ inches width by about 7 inches length, up to 19¾ width by 30¾ inches length. The speed of all Matador" machines is up to about 300 bags per minute, while the "Baby Matador" runs up to 400 bags per minute, approximately.

This company is also selling a new aniline printing press, for printing in three colors. This unit can be attached to any bag making machines or other web-fed paper machinery. It prints directly on the web, and as the ink dries instantly, it is unnecessary to reduce the speed of the bag making machine when using the aniline printer, and it is perfectly practical to print both front and back of the bag at the same time. In the case of square bags, the printing can appear on both sides of the bag, as well as on both front and back. It is also possible to print over-all background designs with this unit.

The aniline printer can be used in conjunction with and in addition to the printing unit which is a part of the bag machine. Thus it is possible to get combinations of six colors in a single run through a 3-color bag machine equipped with a 3-color aniline printer. The web can be printed in three colors and can be rewound if not used in connection with the bag machine.

All of this machinery is made by Windmoeller & Hoelscher, a German concern which is very well known throughout the world. They have been making paper bag machinery for over 60 years, and during the past 25 years have sold a large number of these machines in the United States. They are represented in this country by H. H. Heinrich, Inc., 15 Park Row, New York. The latter concern also handles Vomag web-offset printing presses, the Perfecta full-automatic paper cutter, and other specialties.

News of the Boston Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 9, 1930.—Several of the box board dealers and paper dealers of Boston and vicinity attended the joint meeting and outing of the New England Division of the National Paper Box Manufacturers Association and the Carton Club of Boston at the Vesper Country Club, Tyngsboro, near Lowell, Mass., June 3. Both the business meeting, at which trade practices were discussed, and the outing were thoroughly successful. In the sports, Mr. Lincoln, of the Spaulding & Tewksbury Company, won the prize for the second best net in golf, and Herbert Ham, of Arthur E. Ham & Sons, the first prize in the putting contest.

Frank W. Tully, formerly with the Stone & Andrew Company, and later with John Carter & Co., Inc., after the merger of those firms, has become salesman for Stimpson & Co., in the white paper department.

Stimpson & Co. have recently taken on the agency for Surety Bond.

W. L. Chadwick, director of sales of the United Paperboard Company, New York City, was at the Boston office of the company last week.

H. A. Moses Speaks "Strathmore Night"

[FROM OUR REGULAR CORRESPONDENT]

WEST SPRINGFIELD, Mass., June 10, 1930.—Thursday night was celebrated as "Strathmore night" in honor of H. A. Moses of the Strathmore Paper Company, about 300 attending, mainly from the Strathmore Paper Company, at the Community Y. M. C. A. The papermakers were given full run of the house including swimming pool and bowling alleys and they gave an entertainment of their own talent.

Horace A. Moses, head of the company, was introduced by Donald Pierce, master of ceremonies, and gave an informal talk on Strathmorean affairs. He said that work was going on steadily through the present depression due to farsighted planning and a fine spirit of cooperation between the management and the workers. He also reviewed the improvements at Mittineague the past 10 years especially the new park for the employees and the starting of the new powerhouse.

Hopper Paper Co. To Expand Finishing Room

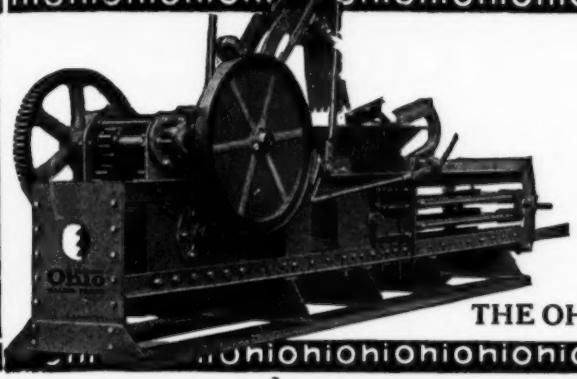
[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 26, 1930.—The O. F. Miller Company has been awarded a contract to erect an addition to the finishing room of the Hopper Paper Company in Taylorville, Ill. It will be a two story structure, 50 by 100 feet in dimensions and of mill construction. A humidifying machine, at all times regulating the temperature in the building, is to be installed.

Business is said to be particularly good with the Hopper concern. The mill at Taylorville has operated at capacity during the winter months.

Industrial Application of Cork

"Industrial Application of Cork" is rather an unusual booklet of about 50 pages which has just been published by the Armstrong Cork Company, of Lancaster, Pa. It is said that cork is one of the least known and most widely used of all natural materials. Leafing through the pages one can see there are indeed hundreds of uses for cork in the industrial application field which may help to solve many vexing technical problems that arise in industry. A copy will be sent gratis.



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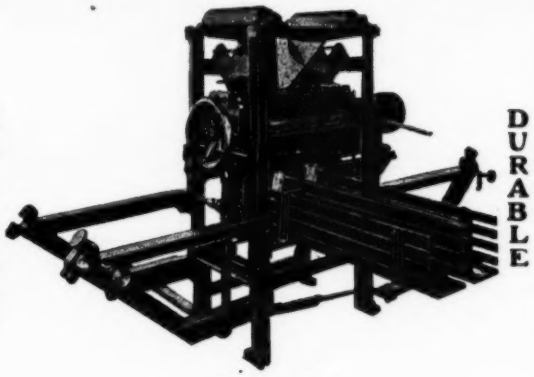

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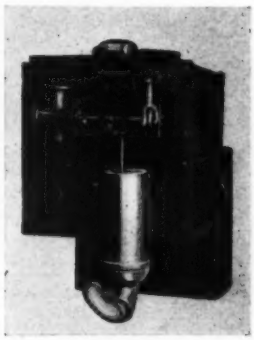

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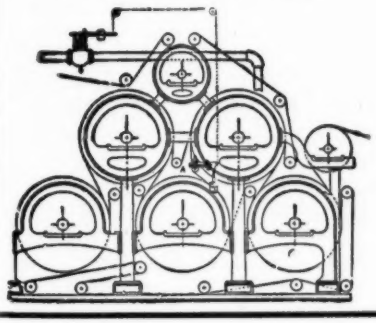

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JUNE 7, 1930

SUMMARY

Cigarette paper .....131 cs.
Wall paper .....8 bls., 19 cs.
Paper hangings .....20 bls., 7 cs.
News print .....11434 rolls
Printing paper .....102 rolls, 149 cs.
Wrapping paper .....2 bls., 12 cs.
Pigment paper .....2 cs.
Drawing paper .....56 cs.
Filter paper .....11 bls., 7 cs.
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Transfer paper .....37 cs.
Envelopes .....12 cs.
Stencil paper .....1 cs.
Carbon paper .....2 cs.
Bowl paper .....45 bls.
Miscellaneous paper ....303 rolls, 12 bls., 263 cs.

CIGARETTE PAPER

P. J. Schweitzer, Pr. Van Buren, Marseilles, 131 cs.

WALL PAPER

Guaranty Trust Co., New York, Hamburg, 7 cs.
F. J. Emmerich, New York, Hamburg, 3 bls.
Phoenix Shipping Co., New York, Hamburg, 1 cs.
Kensington Wallpaper Co., Berengaria, Southampton, 1 bls.
Chase National Bank, Columbus, Bremen, 2 bls.
Universal Car Loading Co., Columbus, Bremen, 2 cs.
J. E. Bernard & Co., Columbus, Bremen, 1 cs.
W. H. S. Lloyd & Co., American Banker, London, 2 bls.
J. E. Bernard & Co., Pennland, Antwerp, 3 cs.
J. E. Bernard & Co., Majestic, Southompton, 2 cs.
J. Wanamaker, Mauretania, Southampton, 2 cs.
Hudson F'd'g Co., Mauretania, Southampton, 1 cs.

PAPER HANGINGS

F. L. Kramer & Co., Berengaria, Southampton, 3 cs.
W. H. S. Lloyd & Co., Minnewaska, London, 13 bls., 4 cs.
A. C. Dodman, Jr., Inc., Cedric, Liverpool, 7 bls.

NEWS PRINT

Perkins Goodwin & Co., New York, Hamburg, 51 rolls.
Perkins Goodwin & Co., Augsburg, Bremen, 51 rolls.
Parsons & Whittemore, Inc., Augsburg, Bremen, 293 rolls.
Perkins Goodwin & Co., Cleveland, Hamburg, 473 rolls.
Bank of Montreal, Humberarm, Cornerbrook, 10,025 rolls.
Parsons & Whittemore, Inc., Carplaka, Kotka, 166 rolls.
———, Carplaka, Kotka, 375 rolls.

PRINTING PAPER

Public National Bank, Arna, Marseilles, 40 cs.
Keuffel & Esser Co., America, Hamburg, 102 rolls.
J. Henschel & Co., New York, Hamburg, 11 cs.
E. Dietzgen & Co., New York, Hamburg, 11 cs.
E. Dietzgen & Co., Volendam, Rotterdam, 29 cs.
Keuffel & Esser Co., Volendam, Rotterdam, 7 cs.
Hoboken Trust Co., Pr. Harding, Hamburg, 4 cs.
C. Steiner, Kepwick Hall, Marseilles, 10 cs.

WRAPPING PAPER

Yardley & Co., Berengaria, Southampton, 2 bls.
Standard Products Corp., Pennland, Antwerp, 8 cs.
Sylvania Industrial Corp., Pennland, Antwerp, 4 cs.

PIGMENT PAPER

Draeger Shipping Co., Cleveland, Hamburg, 2 cs.

DRAWING PAPER

Keuffel & Esser Co., America, Hamburg, 54 cs.
J. Henschel & Co., New York, Hamburg, 1 cs.
H. Reeve Angel & Co., Inc., Caronia, London, 1 cs.

FILTER PAPER

A. Giese & Son, New York, Hamburg, 10 bls.
H. Reeve Angel & Co., Caronia, London, 7 cs.
Schleimanns Co., Cleveland, Hamburg, 1 bls.

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J. J. Shore & Co., New York, Hamburg, 43 cs.
E. Dietzgen & Co., New York, Hamburg, 152 cs.
Quality Art Novelty Co., New York, Hamburg, 4 cs.
Quality Art Novelty Co., Columbus, Bremen, 12 bls.
S. Gilbert, Columbus, Bremen, 18 cs.

WRITING PAPER

American Express Co., McKeesport, Havre, 4 cs.
R. H. Macy & Co., America, Hamburg, 5 cs.
H. Reeve Angel & Co., Inc., Caronia, London, 1 cs.
S. Cusson, Mauretania, Southampton, 18 cs.

COATED PAPER

Pacific National Bank, New York, Hamburg, 2 cs.
W. A. Foster & Co., Minnewaska, London, 6 cs.

METAL COATED PAPER

Hensel Bruckman & Lorbacher, Columbus, Bremen, 26 cs.

BARYTA COATED PAPER

Globe Shipping Co., Columbus, Bremen, 126 cs.

PHOTO PAPER

Medo Photo-Supply Co., Majestic, Southampton, 3 cs.
J. J. Gavin & Co., Majestic, Southampton, 3 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 49 cs. (duplex); 2 cs. (simplex).
C. W. Sellers, Pr. Harding, Hamburg, 15 cs.
C. W. Sellers, Bremen, Bremen, 2 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 4 cs.

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Central Hanover Bank & Trust Co., New York, Hamburg, 35 cs.

TRANSFER PAPER

F. L. Kramer & Co., Columbus, Bremen, 37 cs.

ENVELOPES

Globe Shipping Co., Columbus, Bremen, 12 cs.

STENCIL PAPER

E. Rosenburg, Columbus, Bremen, 1 cs.

CARBON PAPER

W. A. Fooster & Co., Minnewaska, London, 2 cs.

BOWL PAPER

Hurley Johnson Corp., Laconia, Liverpool, 45 bls.

MISCELLANEOUS PAPER

Watch Tower Bible & Tract Soc., New York, Hamburg, 1 cs.
Japan Paper Co., Tai Ping, Yokohoma, 31 cs.
The Borregaard Co., Inc., Kungsholm, Gothenburg, 303 rolls, 12 bls.
J. E. Andersen, Kungsholm, Gothenburg, 2 cs.
Standard Products Corp., Rochambeau, Havre, 18 cs.
P. Puttmann, Rochambeau, Havre, 27 cs.
Steiner Paper Corp., Volendam, Rotterdam, 54 cs.
H. H. Strauss, Ile de France, Havre, 3 cs.
Standard Products Corp., Ile de France, Havre, 22 cs.
Titan Shipping Co., Ile de France, Havre, 3 cs.
Guibout Freres, Ile de France, Havre, 2 cs.
Keller Dorian Paper Co., Ile de France, Havre, 8 cs.
T. N. Fairbanks, Mauretania, Southampton, 10 cs.
Japan Paper Co., Augustus, Genoa, 36 cs.
T. N. Fairbanks, Augustus, Genoa, 46 cs.

RAGS, BAGGINGS, ETC.

A. W. Fenton, Inc., McKeesport, Dunkirk, 204 bls. rags.
A. W. Fenton, Inc., McKeesport, Havre, 73 bls. rags.
Robert Blank, McKeesport, Havre, 51 bls. rags.
Darmstadt Scott & Courtney, McKeesport, Havre, 102 bls. rags.
———, America, Hamburg, 80 bls. rags.
International Trust Co., New York, Hamburg, 40 bls. rags.
Darmstadt Scott & Courtney, Exermont, Alexandria, 100 bls. rags.
E. J. Keller Co., Inc., Augsburg, ———, 39 bls. rags.
International Purchasing Co., Ambridge, Antwerp, 22 bls. bagging.
E. Mayer, Sac City, Rotterdam, 57 bls. rags.
International Trust Co., Volendam, Rotterdam, 56 bls. bagging; 52 bls. rags.
Castle & Overton, Inc., Sud Cubano, B. Ayres, 230 bls. ragging.
E. J. Keller Co., Inc., Kyno, ———, 59 bls. rags; 315 bls. flax waste.
Katzenstein & Keene, Inc., Kyno, Antwerp, 61 bls. rags.
The Barrett Co., Kyno, Antwerp, 232 bls. rags.
Guaranty Trust Co., Kyno, Antwerp, 109 bls. rags.
R. M. Gray, Inc., Kyno, Antwerp, 155 bls. rags.
Castle & Overton, Inc., Kyno, Antwerp, 119 bls. flax waste.
G. W. Millar & Co., Kyno, Antwerp, 158 bls. flax waste.
Van Oppen & Co., Kyno, Antwerp, 37 bls. rags; 404 bls. bagging.
Darmstadt Scott & Courtney, Kyno, Antwerp, 63 bls. bagging.
American Woolstock Corp., Savoia, Leghorn, 174 bls. rags.
Chemical Bank & Trust Co., Kepwick Hall, Bercelona, 76 bls. bagging; 56 bls. rags.
Darmstadt Scott & Courtney, L. A. Christensen Alexandria, 100 bls. rags.
Liberty National Bank, L. A. Christensen, Naples, 31 bls. rags.
Darmstadt Scott & Courtney, Cabo Villano, Genoa, 11 bls. cotton waste.
Irving Trust Co., Cabo Villano, Leghorn, 236 bls. rags.
Darmstadt Scott & Courtney, Cabo Villano, Barcelona, 54 bls. bagging.
Chemical Bank & Trust Co., Cabo Villano, Barcelona, 65 bls. rags.
P. Berlowitz, Cabo Villano, Barcelona, 198 bls. rags.
Castle & Overton, Inc., Cabo Villano, Barcelona, 139 bls. rags.
———, Laconia, Liverpool, 156 bls. rags.

OLD ROPE

Brown Bros. & Co., America, Hamburg, 104 bls.
W. Steck & Co., Sac City, Rotterdam, 40 bls.
Anglo South American Trust Co., Cleveland, Hamburg, 48 bls.
W. Steck & Co., Volendam, Rotterdam, 87 bls.
E. Butterworth & Co., Inc., Cedric, Liverpool, 60 coils.
International Trust Co., Kepwick Hall, Barcelona, 50 coils.

CASEIN

Kalbfleisch Corp., Pan America, B. Ayres, 453 bags.
National City Bank, Sud Cubano, B. Ayres, 1050 bags.

WOOD FLOUR

Equitable Trust Co., Sac City, Rotterdam, 552 bags.
———, Volendam, Rotterdam, 500 bags.

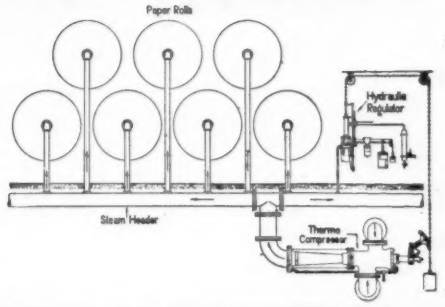
(Continued on page 80)

S & K THERMO - COMPRESSORS

boost exhaust steam for dryer work

The saving in live steam amounts to 25% to 50%

12 standard sizes. Hand or automatic control



Bulletin 4-F gives complete data

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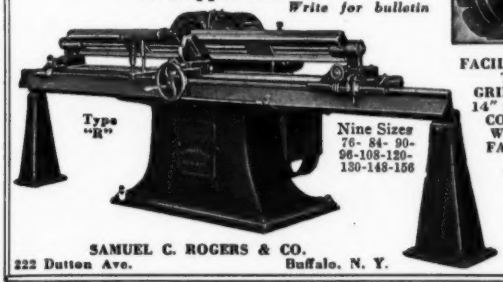

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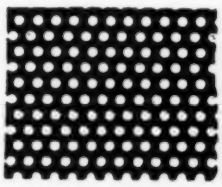

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76%—Solid Liquid Flake
PROVIDENCE BOSTON NEW YORK
PHILADELPHIA CHARLOTTE

Imports of Paper and Paper Stock

(*Continued from page 78*)

WOOD PULP

Johanson Wales & Sparre, Inc., Sagoporack, Svartvik, 480 bls. sulphite, 81 tons.
Bulkley Dunton & Co., Sagoporack, ———, 3150 bls. wood pulp, 533 tons.
M. Gottesman & Co., Inc., Giulia, Sebenico, 1680 bls. wood pulp.
International Paper Co., Ireland, Chatham, 1400 cords wood pulp.
Polaris Shipping Co., Halse, Soldiers Cove, 1451 cords wood pulp.
Guaranty Trust Co., Augsburg, Bremen, 447 bls. sulphite.
Perkins Goodwin & Co., Hjelmaren, Sundsvall, 375 bls. sulphite.
Scandinavian Pulp Agency, Inc., Hjelmaren, Sundsvall, 375 bls. sulphite.
Johanson Wales & Sparre, Inc., Hjelmaren Sundsvall, 1050 bls. sulphite.
Bulkley Dunton & Co., Hjelmaren, ———, 1800 bls. sulphite.
Stora Kopperberg Corp., Hjelmaren, Skutskar, 1875 bls. wood pulp.
Brown Bros. & Co., Hjelmaren, Skutskar, 1000 bls. sulphite.
E. M. Sergeant & Co., Kungsholm, Gothenburg, 620 bls. woodpulp.
J. Andersen & Co., Belos, Hernosand, 6900 bls. sulphite, 1150 tons.
E. M. Sergeant & Co., Belos, Hernosand, 600 bls. sulphite, 100 tons.
Bulkley Dunton & Co., Belos, ———, 10,230 bls. sulphite, 1869 tons; 3600 bls. sulphite, 731 tons.
Pagel Horton & Co., Inc., Belos, Gefle, 2500 bls. sulphite.
Castle & Overton, Inc., Cleveland, Hamburg, 1184 bls. wood pulp, 190 tons.
Pagel Horton & Co., Inc., Carplaka, Gefle, 1250 bls. woodpulp, 127 tons.
Stora Kopperberg Corp., Carplaka, Skutskar, 1325 bls. wood pulp, 268 tons .
———, Carplaka, Kotka, 122 bls. sulphite, 20 tons.
———, Carplaka, Tolkis, 520 bls. sulphite, 105 tons.
Lagerloef Trading Co., Carplaka, Helsingfors, 160 bls. sulphite, 27 tons.

PHILADELPHIA IMPORTS

WEEK ENDING JUNE 7, 1930

J. A. Steer & Co., McKeesport, Dunkirk, 167 bls. rags.
Philadelphia National Bank, McKeesport, Dunkirk, 170 bls. rags.
J. L. Van Diver, McKeesport, Havre, 40 bls. cotton waste.
D. I. Murphy, McKeesport, Havre, 363 bls. rags.
New York Trust Co., Kepwick Hall, Barcelona, 34 bls. rags.
Bank of New York, Kepwick Hall, Valencia, 124 bls. rags.
S. Birkenstein & Son, Kepwick Hall, Valencia, 149 bls. rags.
E. J. Keller Co., Inc., Cabo Villano, ———, 170 bls. rags.
E. J. Keller Co., Inc., Incemore, ———, 118 coils old rope.

PORTLAND IMPORTS

WEEK ENDING JUNE 7, 1930

J. Andersen & Coo., Carplaka, Hernosand, 3000 bls. sulphite, 575 tons.
Lagerloef Trading Co., Carplaka, Kotka, 1222 bls. sulphite, 206 tons.
———, Carplaka, Kotka, 440 bls. sulphite, 73 tons.
———, Carplaka, Kotka, 4451 bls. sulphite, 576 tons.
———, Carplaka, Tolkis, 2860 bls. sulphite, 580 tons.
Lagerloef Trading Co., Carplaka, Helsingfors, 2639 bls. sulphite, 405 tons.

NEW ORLEANS IMPORTS

WEEK ENDING JUNE 7, 1930

E. J. Keller Co., Inc., Oakwood, ———, 220 bls. rags.

BOSTON IMPORTS

WEEK ENDING JUNE 7, 1930

E. Butterworth & Co., Inc., Exermont, Alexandria, 126 bls. rags.
Pagel Horton & Co., Inc., Hjelmaren, Ornskoldsvik, 1800 bls. sulphite.
Johanson Wales & Sparre, Inc., Hjelmaren, Sundsvall, 3625 bls. sulphite.
Perkins Goodwin & Co., Hjelmaren, Sundsvall, 125 bls. sulphite.
Pagel Horton & Co., Inc., Carplaka, Gefle, 5375 bls. wood pulp, 940 tons.
Bulkley Dunton & Co., Carplaka, ———, 1125 bls. wood pulp, 228 tons.
Stora Kopperberg Corp., Carplaka, Skutskar, 2000 bls. wood pulp, 406 tons.
J. Carter & Co., Carplaka, Kotka. 104 bls. news print.
M. Gottesman & Co., Inc., Giulia, Sebenico, 2560 bls. wood pulp.
Atkinson Haserick & Co., Pr. Van Buren, Genoa, 4 cs. paper.
G. F. Malcolm & Co., Cedric, Liverpool, 4 cs. tissue paper .

BALTIMORE IMPORTS

WEEK ENDING JUNE 7, 1930

Congoleum Nairn Co., Augsburg, Hamburg, 130 bls. rags.
Castle & Overton, Inc., Augsburg, Hamburg, 3004 bls. wood pulp.
Parsons & Whittemore, Inc., Augsburg, Bremen, 107 rolls news print.
National City Bank, Augsburg, Bremen, 647 bls. rags.
Lagerloef Trading Co., Augsburg, Bremen, 1010 bls. wood pulp.
Congoleum Nairn Co., Ambridge, Antwerp, 3275 bls. rags; 175 bls. bagging.
———, Sagoporack, Kopmanholmen, 300 bls. wood pulp, 508 tons.
Pagel Horton & Co., Inc., Sagoporack, Hornefors, 8550 bls. sulphite, 1425 tons.
Lagerloaf Trading Co., Sagoporack, Helsingfors, 3200 bls. sulphite, 544 tons.
Price & Pierce, Ltd., Sagoporack, Stockholm, 5280 bls. sulphite, 668 tons.

NORFOLK IMPORTS

WEEK ENDING JUNE 7, 1930

Irving Trust Co., Augsburg, Bremen, 762 bls. wood pulp.
Bank of New York, Augsburg, Bremen, 224 bls. bagging.
Equitable Trust Co., Augsburg, Hamburg, 138 bls. rags.
W. M. Stone & Co., Augsburg, Hamburg, 10 bls. paper.
E. Butterworth & Co., Inc., Ambridge, Antwerp, 233 bls. bagging.
Katzenstein & Keene, Inc., Ambridge, Antwerp, 79 bls. bagging.
———, Ambridge, Antwerp, 55 bls. bagging.

H. L. Moody Goes With Edge Moor Iron Co.

The Edge Moor Iron Company announces the appointment of Harry L. Moody as general sales manager, commencing June 1, 1930. Mr. Moody will be located at the main office at Edge Moor, Del.

Mr. Moody joined the sales department of the Westinghouse Machine Company in 1909, being located at the Boston Office. Following the consolidation of the Westinghouse Machine Company with the Westinghouse Electric and Manufacturing Company he was transferred to the Philadelphia office as manager of the Power Division and later appointed sales manager of the Central Station Division, in which capacity he was responsible for the company's activities with public utilities located in the Philadelphia District.

In 1923 he became sales manager of the U. G. I. Contracting Company of Philadelphia, having charge of the development of their new business activities along engineering and construction lines with the exception of their gas construction work.

Mr. Moody is a native of Newburyport, Mass., where he received his elementary education, later graduating with the degree of B.S. from the Massachusetts Institute of Technology.

Simplification of Paper Shipping Tags

WASHINGTON, D. C., June 9, 1930.—The division of simplified practice of the Bureau of Standards has just announced the availability of the printed booklet, Simplified Practice Recommendation No. 93—Paper Shipping Tags.

A perusal of this booklet discloses that the simplified schedule reduces the sizes of tags from 16 to 8, grades of stock from 21 to 8, thickness from 7 to 5, and colors from 32 to 15.

Copies of the printed recommendation may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 10 cents each.

New United Conveyor Catalog Issued

The United Conveyor Corporation, of Old Colony Building, Chicago, has just published a new illustrated catalog describing the Steamatic Pneumatic Ash Conveyor System developed by its engineering staff. This is the first time that news on the Steamatic system has been released for publication.

Although the Steamatic is a recent development in Ash handling, nearly one hundred plants have already adopted the method for their ash disposal, attesting its substantial merits. Copies of this new catalog may be obtained upon application to the manufacturers.

Directory of Paper Makers

Marchant Singer & Co., of 47 St. Mary Axe, London, England, have just published the 1930 issue of the "Directory of Paper Makers of Great Britain and Ireland" which has again been authentically revised and brought up to date. It will be noticed that many changes have taken place.

In the Trade Designations sections no less than 140 additions have been made to Actual Watermarks and more than 450 to Trade Names, besides transfers and numerous withdrawals. The directory is sold at five shillings and six pence net.

To Promote Cellulose Products

WILMINGTON, Del., June 9, 1930.—An advertising and sales promotion campaign to develop new uses for lacquer and other nitrocellulose products has been instituted by the Hercules Powder Company. Although not a manufacturer of lacquer, the Hercules company produces nitrocellulose, the basic ingredient of lacquer, celluloid, and pyroxylin products. The general business and industrial fields for the use of lacquer outside its use as an automobile finish are to be developed.

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ALL KELLOGG FORGE AND HAMMER LAP WELDED PRODUCTS ARE INSURABLE

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, June 11, 1930.

Conditions in the local paper market were fairly satisfactory during the past week. Demand for the various standard grades of paper was moderately active. There are a number of inquiries for future needs around. Sales forces of the leading paper organizations are still making strenuous efforts to book new orders. Quotations are somewhat firmer.

Demand for news print is about normal for the time of year. Production is being maintained at approximately 76 per cent of total capacity in the United States and British North America. Shipments against contract are moving in good volume. The price situation is practically unchanged although the outlook is considered brighter, in some quarters.

Production of the various grades of paper board is being maintained in sufficient volume to take care of current requirements. No improvement has been reported in the price situation. The fine paper market is in a strong position, with prices steady to firm. Some improvement was noticed in the coarse paper market and kraft quotations advanced slightly.

Mechanical Pulp

Although the ground wood market was rather quiet during the past week, the industry is exhibiting a strong undertone. The contract movement is well up to average for the season. Inquiries for future needs are fairly numerous. Prices of both domestic and imported mechanical pulp are practically unchanged and there is little talk of concessions around.

Chemical Pulp

There were no radical changes reported in the chemical pulp market. Demand for the various grades was light. Contract shipments were fairly heavy. Quotations on both foreign and domestic chemical pulp were practically unaltered. No. 1 kraft pulp is still being offered at from $1.75 to $2.15 and No. 2 kraft pulp at from $1.65 to $1.85, on dock, Atlantic ports.

Old Rope and Bagging

Paper mill interest in the old rope market is restricted at the present time. Offerings of both domestic and foreign old manila rope are ample. Mixed strings are moving in fair volume. The bagging market is displaying a steady trend. Gunny bagging is in excellent request. Scrap bagging is also active. Roofing bagging is rather quiet. Prices remain unchanged.

Rags

The domestic rag market was only moderately active during the past week. Supplies of cotton rags are moving into consumption in normal volume for the season. Roofing grades continue dull. Prices remain unchanged, in most instances. Little interest is being shown in the imported rag market at the present time and prices of the various grades are nominal.

Waste Paper

Irregular conditions prevail in the paper stock market. Demand for the better grades of waste paper is fairly satisfactory and soft white shavings are particularly active. Book stock is exhibiting a fairly steady trend. Little interest is being shown in the lower grades of paper stock by the board mlls and the price situation is decidedly weak.

Twine

Business in the local twine market during the past week was fairly active. Demand for the various grades was mostly along routine lines. Inquiries for future needs are being received in fair volume for the time of year. Prices are generally holding to formerly quoted levels, although there have been reports of shading on extra desirable orders.

Prominent Trustees for Lawrence College

Because of the close relation developed between Lawrence College, Appleton, Wis., the paper industry through the recent formation of the Institute of Paper Chemistry, two men prominent in paper mill circles have been honored with election to the board of trustees. These men are D. C. Everest, vice president and general manager of the Marathon Paper Mills Company, of Rothschild, Wis., and C. B. Clark, president of the Riverside Paper Corporation, Appleton, Wis. Another new member of the board is Walter Kasten, president of the First Wisconsin National Bank, Milwaukee, Wis., a man closely connected with the financing of paper mills in the state. One of the vacancies on the board was caused by the resignation of A. F. Tuttle, president of the Tuttle Press Company, a paper converting company of Appleton. He served for fifteen years, and in recognition of his work was made an honorary trustee. Mr. Everest was president of the American Paper and Pulp Association from 1927 to 1929.

Gilbert J. Schofield Co. Leases Plant

[FROM OUR REGULAR CORRESPONDENT]

WATERVLIET, N. Y., June 9, 1930.—The plant on Broadway owned by the Roy Woolen Company has been leased to the Gilbert J. Schofield Company, of Albany, for the manufacture of paper mill machinery and other equipment. It was learned that the concern has outgrown its establishment in that city which made it imperative to secure larger quarters. Most of the machinery has already been moved to this place and about forty workers will be given steady employment. The building was abandoned by the woolen company a few years ago although a section of it was recently leased to the Albany Boat Corporation. Operations have already been started by the Schofield concern and the plant is laid out in a manner to permit taking over additional space as the business expands.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 11, 1930.—The Government Printing Office has received the following bids for 3,000 sheets of 4⅞x7⅞ folded mourning letter paper: Eaton, Crane & Pike Company, $24.40 per M sheets; Whitaker Paper Company, $24.15 and $36.50; and R. P. Andrews Paper Company, $21.48.

For 40,000 pounds of 25x30 binders board: Barton, Duer & Koch Paper Company, at 5.5 cents per pound; R. P. Andrews Paper Company, 5.5 cents; Dobler & Mudge, 5.5 cents and Perkins-Goodwin Company, 5.5 cents.

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For Paper Mills
GRAND CENTRAL TERMINAL BLDG. NEW YORK

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, June 11, 1930.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Demand for both the pulp and the powder is seasonal. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Trading in the bleaching powder market is only moderately active. Offerings are sufficient to take care of current requirements. Prices are holding to formerly quoted levels. Bleaching powder is selling at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein was light and prices were easy. Domestic standard ground is quoted at 13½ cents and finely ground at 15 cents per pound. Argentine standard ground is selling at 13½ cents and finely ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market was rather quiet. Shipments against contract were fairly heavy. Prices remain unchanged. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Steadiness prevails in the china clay market. The contract movement is well up to average. Prices are unaltered. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Conditions in the chlorine market are fairly satisfactory. Demand from the paper mills is mostly seasonal. Contract shipments are moving in a normal manner. Prices are steady. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market was slightly easier during the past week. The grades of gum rosin used in the paper mills are quoted at from $6.95 to $7.05 per 280 pounds, in barrels, at yard. Wood rosin is still selling at from $6.25 to $6.80 per 280 pounds, in barrels, on dock.

SALT CAKE.—There were no radical changes reported in the salt cake market. Shipments against contract are proceeding at a steady pace. Prices are unchanged. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Consumption of soda ash is being maintained in fairly satisfactory volume. The contract movement is seasonal. Prices are generally holding to formerly quoted levels. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55.

STARCH.—Most of the business transacted in the local starch market was along routine lines. Supplies are moving into consumption at a normal pace. Prices are holding to schedule. Special paper making starch is quoted at $3.72 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The sulphate of alumina market is exhibiting a steady trend. Contract shipments are going forward in fairly good volume. Prices are unchanged. Commercial grades are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Production of sulphur is being maintained in excellent volume. The quotation is $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Business in the talc market is fairly active. The contract movement was well sustained. Prices are holding to schedule. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	5.75	@ 6.25
No. 2 Domestic	3.75	@ 5.00
Southern	3.25	@ 4.75
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@ —
Straw	50.00	@ —
Chip	35.00	@ —
Binders' Boards	65.00	@70.00
Wood Pulp	90.00	@95.00
65 Test Jute Liner	37.50	@40.00
85 Test Jute Liner	42.50	@45.00
Sgl. Mla. Ll. Chip.	47.50	@50.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	30.00	@32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.25	@ 4.25
Easy Bleaching	2.75	@ 2.90
No. 1 strong unbleached	2.50	@ 2.65
Mitscherlich unbleached	2.50	@ 2.85
No. 2 strong unbleached	2.35	@ 2.50
No. 1 Kraft	1.75	@ 2.15
No. 2 Kraft	1.65	@ 1.85
Sulphate—		
Bleached	3.40	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.00	@ 4.75
Easy Bleaching Sulphite	2.55	@ 2.85
News Sulphite	2.35	@ 2.60
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	2.90	@ 3.20

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	9.25	@ 9.75
New White, No. 2	7.00	@ 7.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	10.50	@11.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.25	@ 7.75
Washables	4.75	@ 5.25
Fancy	5.50	@ 6.00
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.50	@ 1.60
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	2.75	@ 3.75
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.95	@ 2.15
Extra Light Prints	2.75	@ 3.00
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.95	@ 2.10
Dutch Blue Cottons	2.15	@ 2.30
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.30	@ 2.50
German Blue Cottons	2.00	@ 2.10
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.75	@ 1.80
Dark Cottons	1.35	@ 1.40
Old Shopperies	1.25	@ 1.30
New Shopperies	1.20	@ 1.25
French Blues	2.00	@ 2.10

Old Rope and Bagging

(Prices to Mill f. o.b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.65	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.50	@ 3.75
Domestic	3.75	@ 4.25
New Burlap Cut	2.50	@ 2.75
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00	@ 3.25
Hard, white, No. 2	2.40	@ 2.55
Soft, white, No. 1	2.65	@ 2.75
White envelope cuttings	2.90	@ 3.10
Flat Stock—		
Stitchless	1.40	@ 1.50
Overissue Mag.	1.40	@ 1.50
Solid Flat Book	1.30	@ 1.40
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.30	@ 1.40
New B. B. Chips	.35	@ .45
Manilas—		
New Env. Cut.	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.60	@ .65
Bogus Wrapper	.60	@ .65
Container	.40	@ .50
Old Kraft Machine—		
Compressed bales	1.50	@ 1.60
News—		
No. 1 White News	1.75	@ 1.85
Strictly Overissue	.50	@ .55
Strictly Folded	.40	@ .45
No. 1 Mixed Paper	.20	@ .25
Common Paper	.15	@ .20

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Twines
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Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06½
Sulphite Sreenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (over-issue	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03¾	@	.04¼
No. 1 Kraft	.05¾	@	.06¾
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¼
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08¼	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.20
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	.80	@	.90
No. 2	.70	@	.75
No. 3 (Roofing)	.30	@	.40
No. 4	.30	@	.40
No. 5A	.70	@	.75
B	.40	@	.60
C	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.06
No. 2 Kraft	.03½	@	.03¾
(Less car-freight to Boston).			
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.50	@	2.60
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.30	@	—
No. 1 Books, Light	1.05	@	—
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	1.40	@	1.50
Print Manila	.75	@	.80
No. 1 Mixed Paper	.20	@	.22½
Overissue News	.40	@	.50
Old Newspapers	.35	@	.40
Box Board, Chip	.45	@	.50
Corrugated Boxes	—	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	1.65	@	—
Manila Rope—			
Foreign	3.25	@	3.50
Domestic	3.75	@	4.00
Transmission Rope	2.40	@	2.50
Mixed Strings	.90	@	—
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.40	@	1.50
Scrap Sisal	1.65	@	1.75
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08	@	.08¼
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.56	@	1.65
No. 2	1.00	@	1.10
No. 3	.90	@	1.00
No. 4	.95	@	1.05

Foreign Rags
(F. o. b. Boston

Dark Cottons	1.10	@	1.20
New No. 1 Shirt Cuttings	8.50	@	9.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.40	@	1.50

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-			
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-EIGHTH YEAR

Published Every Thursday by the LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President: J. BANNINGA, Sec.-Treas.

Executive and Editorial Offices: 10 East 39th Street, New York
Chicago Office: 123 West Madison St.

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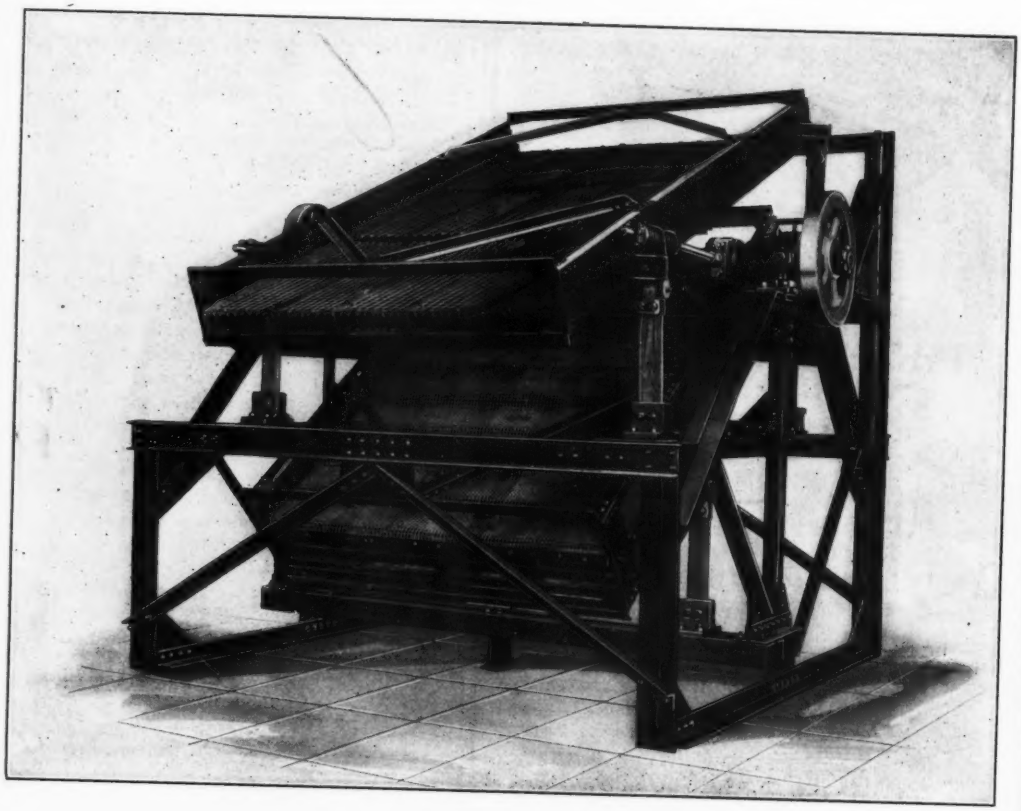

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